**BIENNIAL REPORT EDITION**

**JULY 1, 1959 - JUNE 30, 1961**

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH · ESTABLISHED APRIL 15, 1870

# California's Health

*Vol. 19, No. 11 · Published twice monthly · December 1, 1961*

*This special issue*
*is dedicated to the memory of*

*WILTON L. HALVERSON, M.D., DR.P.H.*

*who, as State Director of Public Health*
*from 1943 - 1954,*
*is considered to be the person most responsible*
*for the present pattern of services of the*
*State Department of Public Health*

OFFICE OF THE DIRECTOR

STATE OF CALIFORNIA

# Department of Public Health

2151 BERKELEY WAY

BERKELEY 4, CALIFORNIA

December 1, 1961

The Honorable Edmund G. Brown
Governor of California
State Capitol
Sacramento 14, California

Dear Governor Brown:

It is with some satisfaction that I transmit to you the report of the State Department of Public Health for the 1959-1961 biennium.

Within the limits of our space and your time, many of the activities of the Department could not be described in detail. It is believed, however, that this report does present highlights of the Department's activities and accomplishments during the past two years and that it does serve to indicate the multiplicity of ways in which this Department has influenced the health and well-being of the people of California.

On behalf of the staff of our Department and the people of our State, I would like to express to you our appreciation for the support and encouragement you have given in the carrying out of these important public health functions.

Very sincerely yours,

Malcolm H. Merrill

Malcolm H. Merrill, M.D.
Director of Public Health

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**BUREAU OF HEALTH EDUCATION**
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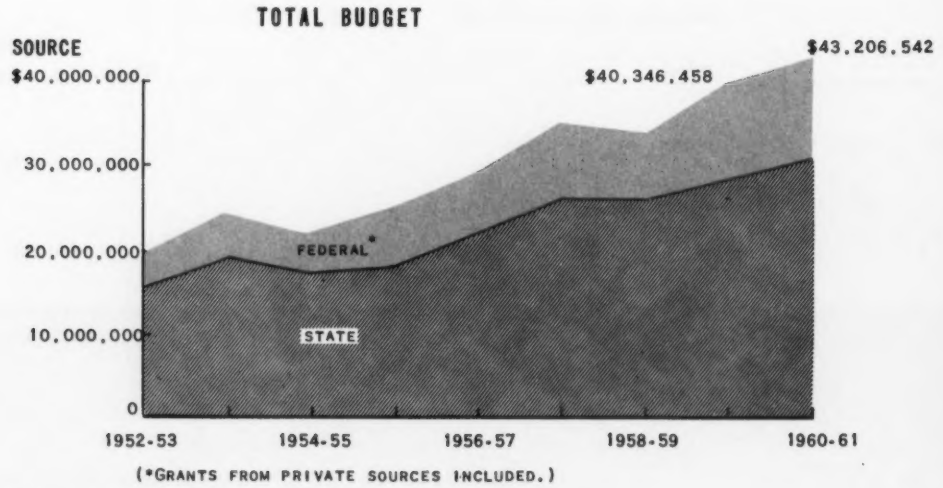
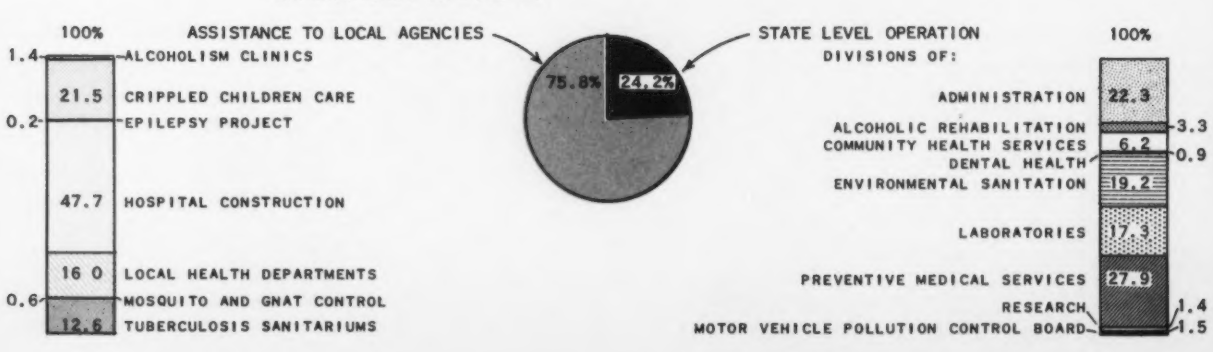
## CONTENTS

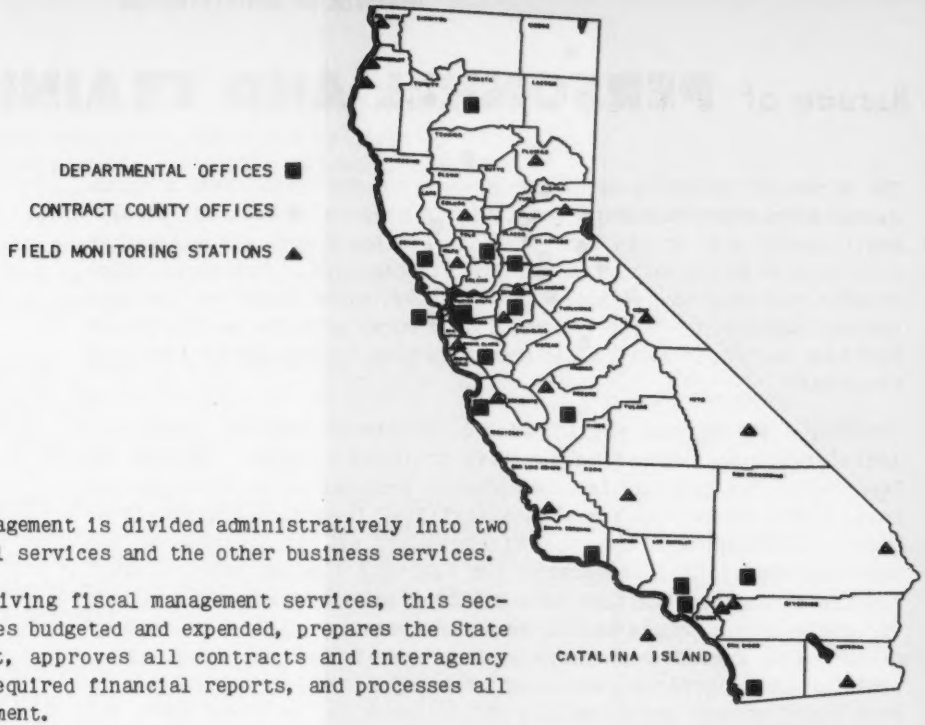
# *Bureau of* BUSINESS MANAGEMENT

The Bureau of Business Management has a single objective underlying its many and varied activities – that of facilitating the programs of all the other administrative units of the Department.

As Californians have come to understand what public health efforts can do to save lives and make those lives worth living, they have demanded expanded public health services and they have been willing to increase appropriations. As a result, the Department's Bureau of Business Management handles an increasingly large budget. About three quarters of the State's public health funds are channeled through the Department directly to local health agencies, and only a quarter is retained for the Department's operating budget. As the Department's progress and achievements have come to attract nationwide attention, private foundations have allocated funds to the Department for pilot projects and research studies. While these private grants comprise only a small part of the Department's operating budget, they support significant research. Greater amounts of research funds come to the Department from Federal sources. Federal funds are also received for the Hospital Construction Program and for grants-in-aid for local public health activities.






The Bureau of Business Management is divided administratively into two sections, one giving fiscal services and the other business services.

ACCOUNTING SECTION — In giving fiscal management services, this section accounts for all monies budgeted and expended, prepares the State budget for the Department, approves all contracts and interagency agreements, prepares all required financial reports, and processes all bills and vouchers for payment.

Funds from outside the State budget require special services. The section assists in the development of the financial aspects of applications for research grants. When a research project goes into operation, the section continues this assistance. When the Department contracts with outside agencies, such as universities, for research or demonstrations, the section handles the funds involved.

An essential function of the section is verification of the legality and propriety of payments under the various subvention programs of the Department. Field audits are made of the records of the various county agencies and private and public hospitals involved. Out of this experience, consultation service can be given to the participating agencies on request.

OFFICE MANAGEMENT SECTION — In carrying out the business services of the Department, this section has responsibility for space procurement and assignment, property control, maintenance of buildings and field offices, planning for new construction, preparation of leases, purchasing of equipment, and arrangements for capital outlay for construction and repairs. The section provides purchasing service, receives and records all payments to the Department for permits and licenses, and handles all leases and contracts entered into by the Department.

A wide range of direct services provided to Department staff make for efficiency through centralization. Important among these are the handling of incoming and outgoing mail, maintenance of the stockroom, and provision of skilled duplicating services. Other services provided staff are travel arrangements, telephone and teletype operation, and clerical and supportive services to the Department's field staff.

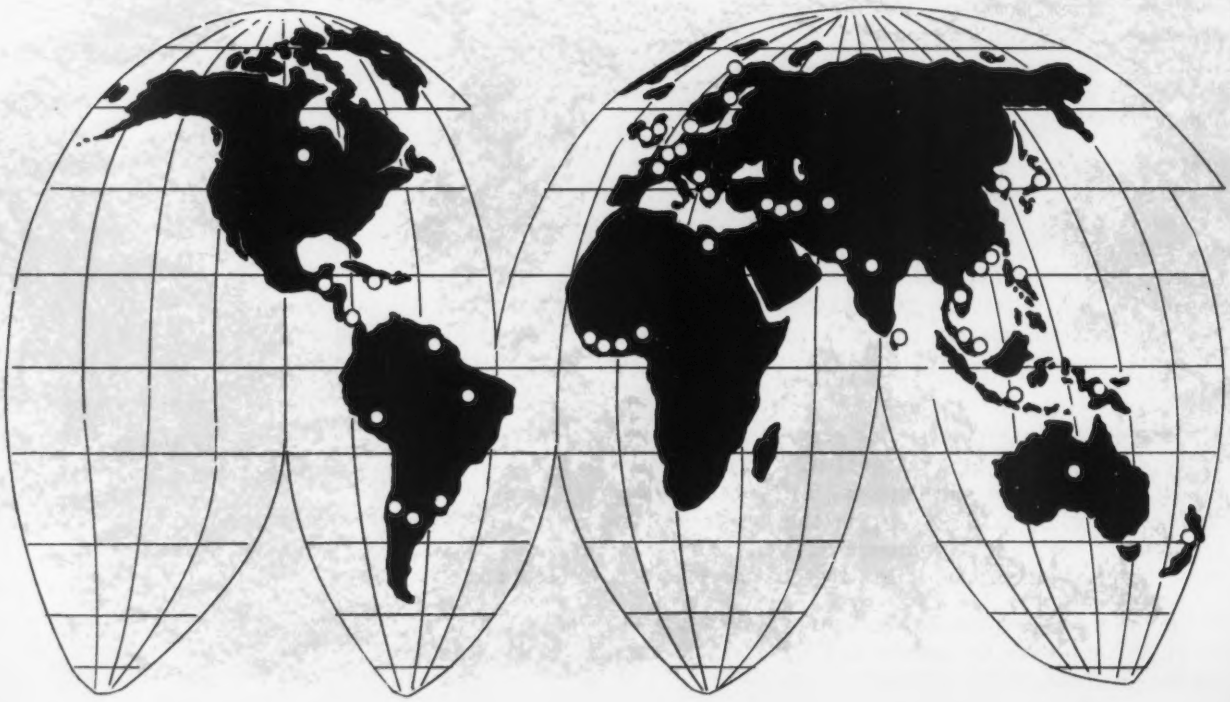
The Bureau of Business Management provides the essential and basic services that make for smooth and efficient operation of all Departmental programs.

# *Bureau of* PERSONNEL AND TRAINING

The Bureau of Personnel and Training develops and administers a broad-gauged personnel management and training program to meet the Department's needs and, at the same time, to provide a work situation conducive to high productivity and job satisfaction. The Bureau represents the Department before the State Personnel Board and related central agencies of State government and works with the Public Health Service and local health department staff in arranging training programs.

*Training* - The Bureau, working with a Department advisory committee, administered an increasingly active training program. Within the Department, the training included planned programs to orient State and local staff to the Department's activities, inservice training sessions for management and supervisory staff of the Department, and observation training experience for visiting foreign public health specialists. Opportunities were expanded and arrangements were made for professional and technical advanced training outside the Department. This included graduate work in public health, specialized training at universities and other training centers to enable Department staff to gain knowledge and skills essential to their work, and institutes for State and local agency staff on technical subjects. The Bureau also assisted local health officers and Departmental staff in developing training plans and activities to meet their program needs.

*One of the most significant contributions to world health made by the Department was arranging field experiences for large numbers of public health specialists from all continents of the world.*



The Bureau of Personnel and Training seeks to meet the Department's needs for competent and highly skilled employees and maintain working conditions for these employees that will facilitate productiveness and lessen turnover.

*Employee relations* — Counsel and assistance on a limited basis was provided to resolve grievances and other work-related problems. Disciplinary problems were few in number.

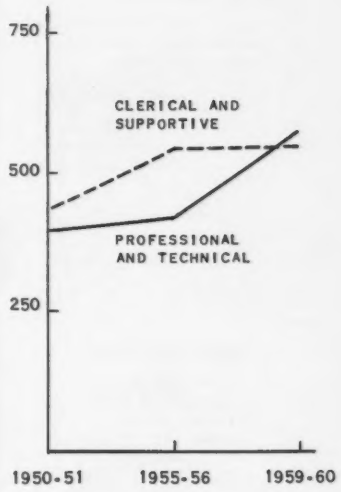
*Personnel records* — The Bureau processed a large volume of personnel documents for the Department's approximately 1,200 employees. These included applications, appointments, separations, sick leave, vacations, and other required personnel records.

*Salary administration* — By the end of the biennium, the payroll had exceeded a half-million dollars a month. Maintenance of an equitable and competitive salary structure required studies of prevailing rates for comparable work in other health agencies and of internal salary relationships within the Department.

*Job classification* — The period covered by this report was one of continuing enlargement of Department programs with necessary increase in staff, entailing much Bureau time in job classification. The major Departmental reorganization in 1959 required significant changes in the classification of positions, although the already wide variety of classes of positions was not greatly increased. The Department uses about 250 personnel classes. In the State service as a whole, the average number of employees to a class is around 34. The Department's needs are so specialized that in many instances there is a single person in a class, making an average of about five employees to a class. Some of the new class titles established during the biennium illustrate the wide scope, variety, and specialization of the Department's program needs. Examples are: Nuclear Electronics Specialist, Associate Radiochemist, Kosher Food Law Representative, Meteorologist, Applied Science Programmer, and Supervisor of Vector Research.

*Recruitment* — The Department's expanded responsibilities and increasing emphasis on research require highly trained specialists who are in limited supply throughout the Nation. This posed continuing recruitment problems during the biennium. While the general employment market improved for clerical, supportive, and subprofessional laboratory personnel, the difficulties in the recruitment of professional and technical staff remained serious, since about half of the Department staff are in this category. The Bureau made use of the services of the State Personnel Board in meeting recruitment needs. Their assistance was particularly valuable in nationwide recruitment efforts.

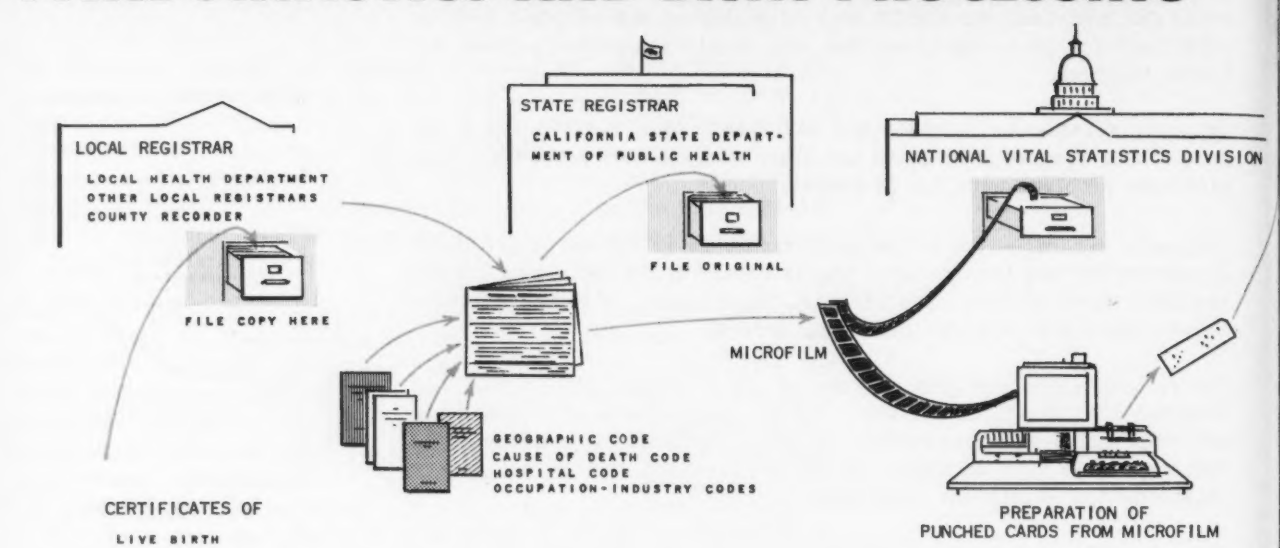
**STAFF GROWTH IN DECADE**




**TYPES OF TRAINING 1959-1961**

| | NUMBER |
|---|---|
| INTRADEPARTMENT | |
| ORIENTATION | 265 |
| MANAGEMENT AND SUPERVISORY DEVELOPMENT | 364 |
| OBSERVATION TRAINING OF FOREIGN SPECIALISTS | 120 |
| EXTRA DEPARTMENT | |
| STIPENDS | 25 |
| SPECIALIZED TRAINING | 155 |
| INSTITUTES | 2,700 |

# *Bureau of*
# VITAL STATISTICS AND DATA PROCESSING



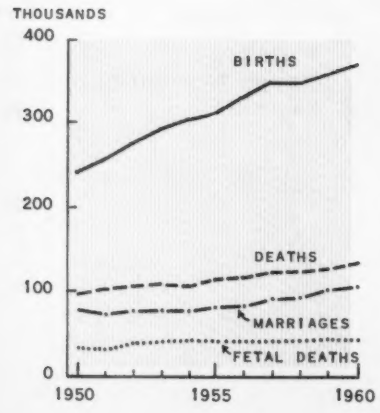

The Bureau of Vital Statistics and Data Processing has responsibility for the State-wide program of registering vital events, and analyzing and making available vital statistics. It serves as an integrated data processing center for the Department. Data processing services may include coding, microfilming, punch-card preparation, tabulating and computing, and preparation of tables for reports.

Registration of births, deaths, fetal deaths, and marriages have, of course, increased with the rapid rise in population. In January 1960, processing of these certificates was placed on a weekly instead of monthly basis, making mortality data more promptly available for health surveillance.

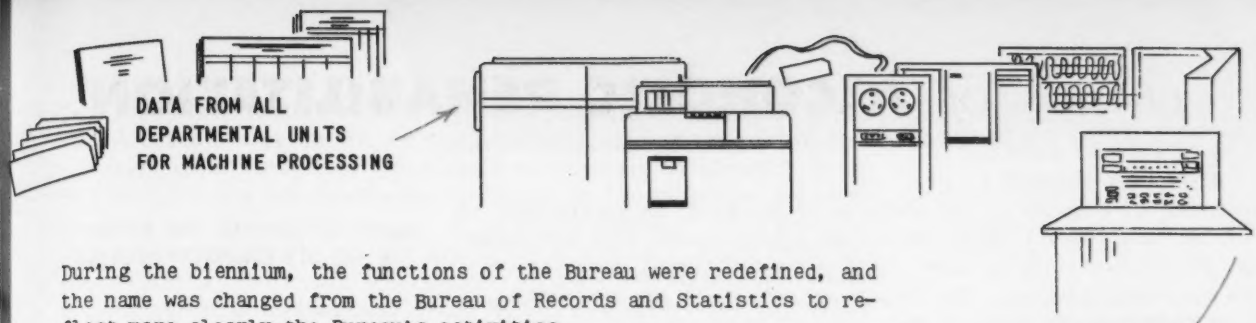
Vital record forms are frequently revised in order to improve the quality of information obtained. These records are used in increasing numbers of epidemiologic studies. Where study populations overlap, the Bureau prevents repetition of inquiries to physicians and families of decedents by maintaining a file of previous inquiries.

Until this biennium, the greatest technological advance in the Bureau was microfilm. In this period, the Bureau began to use electronic computers in processing data, in addition to the conventional tabulating machines. Present demands do not justify the expense of computer installation, so machine time is leased.

The Bureau provides Departmental units with statistical report preparation, statistical typing, forms design, and graphic art. The Bureau's graphic artists not only produce necessary charts, but make the Department's publications outstanding by creative use of color and design. Displays, slides and forms are also produced in large numbers.




REGISTRATION OF LIVE BIRTHS, DEATHS, MARRIAGES AND FETAL DEATHS FOR EACH YEAR, 1950-1960, CALIFORNIA



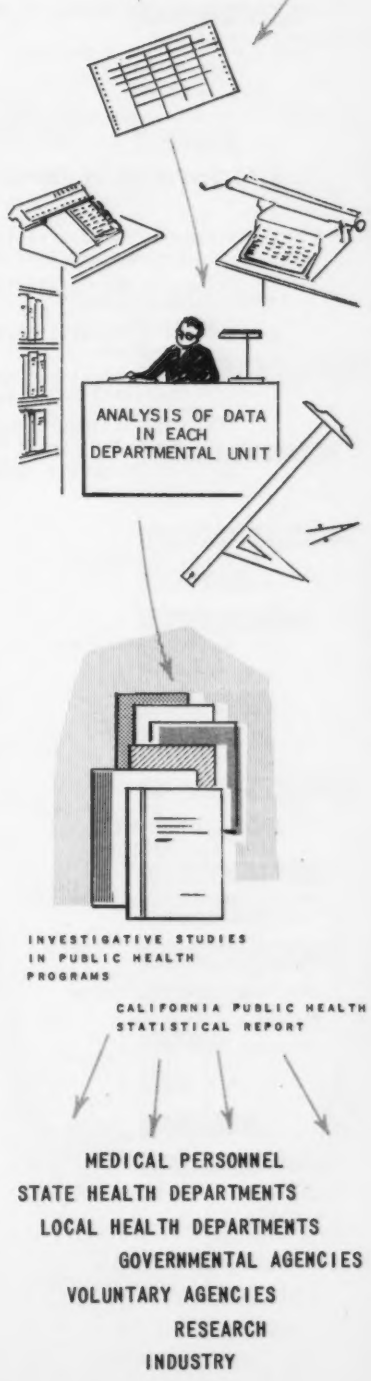

During the biennium, the functions of the Bureau were redefined, and the name was changed from the Bureau of Records and Statistics to reflect more clearly the Bureau's activities.

*Tumor Registry monograph* — For more than a decade, the Bureau of Chronic Diseases has maintained a registry of cancer patients whose disease was diagnosed or treated in a group of California hospitals. The Department plans to publish a monograph summarizing and analyzing the registry's more than 110,000 newly diagnosed cancer cases. In preparation, the Bureau of Vital Statistics and Data Processing has computed the actual survival rates and their variances and prepared hundreds of other necessary tabulations — probably the most demanding data processing problem ever undertaken by this Department. This was the Bureau's first big computer job and the final result was a success, but along the way there were seeming disasters, before the staff learned that the "giant brain" is subject to the same foibles as the ordinary TV set.

*Death clearance program* — A widely used technique in epidemiologic investigation is the prospective longitudinal study. By this method, a selected group of persons is followed for a certain period of time to find out which ones become ill or die and the nature of the illness or cause of death. Death clearance for such studies has been done by visually searching the printed death indexes for persons in the groups being studied who had died since the study began. This is a time-consuming procedure. Death clearance was done in this way during the biennium for the Department's Tumor Registry Survival Study, Perinatal Mortality Study, Longshoremen's Multiphasic Screening Study, lung cancer and air pollution effects studies, and the study of cancer and coronary disease in a Seventh-Day Adventist population. The Bureau is making a real contribution to health research by developing a method for death clearance using electronic computers. At no greater cost, the margin of error is reduced, the data are more timely, and very large populations can be studied with ease.

*Preparation for use of 1960 Census data* — Census years are important in public health, since population counts supply the bases for computing rates for geographic areas by age, sex, race, occupation or other demographic characteristics used as health indices with wide application. Systematic planning was done for use of 1960 Census data, which are not yet available, so that a larger number of vital rate tables, covering more variables of interest to health agencies, can be produced earlier than has been possible in previous census years.

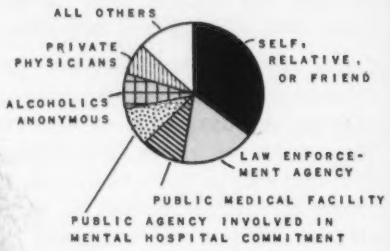
*Divorce registry* — California has had central registries of births, deaths, and marriages since 1905, but has had no central registry for divorces and annulments. Intensive study of family patterns in the State has been impossible. The 1961 Legislature passed a bill that provides a beginning by requiring county clerks to report to the Department any final decree of divorce or annulment filed after January 1, 1962. A sample study of marriage, divorce, and annulment was made for four regions of California in 1960, as a part of a nationwide study by the National Office of Vital Statistics,



# *DIVISION OF* **ALCOHOLIC REHABILITATION**

The immediate purpose of the Division of Alcoholic Rehabilitation is treatment and rehabilitation of alcoholics, together with investigation and documentation of those factors and situations improving treatment and rehabilitation. The long-range purpose is the development of a preventive program based on more complete understanding of the alcoholism process.

**SOURCE OF REFERRAL FOR PATIENTS IN THE SIX COMMUNITY CLINICS**




**CLINICS SUPPORTED BY THE DIVISION OF ALCOHOLIC REHABILITATION**

ALCOHOLIC REHABILITATION CLINIC
LOS ANGELES CITY HEALTH DEPARTMENT, LOS ANGELES

ALCOHOLIC REHABILITATION CLINIC
SACRAMENTO

ALCOHOLIC REHABILITATION CLINIC OF SAN JOAQUIN COUNTY
STOCKTON

CENTER FOR TREATMENT AND EDUCATION ON ALCOHOLISM
OAKLAND BRANCH CLINIC: SAN LEANDRO

SAN DIEGO ALCOHOLIC REHABILITATION CLINIC
SAN DIEGO COUNTY HEALTH DEPARTMENT, SAN DIEGO

SANTA CLARA COUNTY ALCOHOLIC REHABILITATION CLINIC
SAN JOSE

**SPECIAL CLINICS**

SAN BRUNO COUNTY JAIL CLINIC

ADULT GUIDANCE CENTER, SAN FRANCISCO

ALCOHOLISM RESEARCH CLINIC
UNIVERSITY OF CALIFORNIA HOSPITAL, LOS ANGELES

**OTHER TREATMENT FOR ALCOHOLICS**

PRIVATE PHYSICIANS, HOSPITALS AND SANITARIUMS

COUNTY, STATE, AND FEDERAL HOSPITALS

JAIL FARM REHABILITATION

ALCOHOLICS ANONYMOUS

HALF-WAY HOUSES

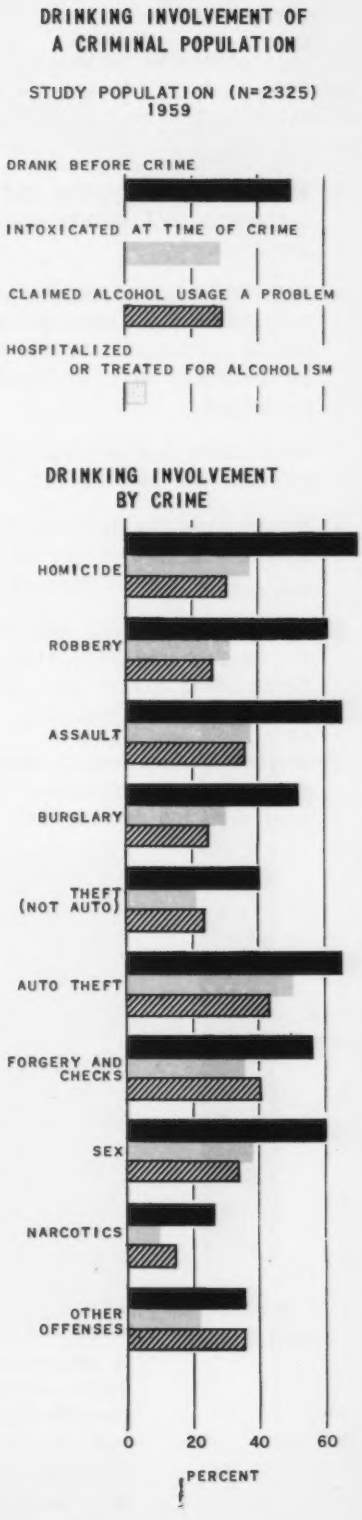
During the biennium, the six community alcoholism clinics supported by the Division developed from strictly outpatient treatment facilities into community centers for the control, prevention and treatment of alcoholism. In 1959, a standardized reporting system was developed to obtain uniform patient information from each of these clinics. In 1960, a follow-up study of the adjustment of clinic patients showed overall improvement in a majority of those interviewed. • The Division held several conferences and participated in others for professional groups, such as physicians, social workers, clergy, and occupational nurses, to increase their skills in treating the alcoholic. • With funds from the NIMH, the Division and other interested State agencies sponsored two conferences aimed at coordinating education and research activities at the State level. • An annotated bibliography on alcohol and alcoholism was developed for teachers, and the State P-TA was assisted in two surveys of the current status of alcohol education in schools. • A series of eight reports, "Alcoholism and California". and seven publications for semiprofessional and popular use were published. • Distribution of the Division's bimonthly publication, "The California Alcoholism Review and Treatment Digest", was increased in 1960 from 3,000 to 4,000.

California is estimated to rank higher in alcoholism than in any state in the Union - a record in which California takes no pride. In 1957, the California Legislature established the Division of Alcoholic Rehabilitation within the Department "to engage in the treatment and rehabilitation of alcoholics . . . . to study all phases of the rehabilitation of alcoholics . . . . and all factors necessary to the reduction and prevention of chronic alcoholism . . . . ." Treatment and rehabilitation services took high priority in Division activities during the biennium, and research and evaluative studies undertaken were determined mainly by the needs of these services.

*Consultative service* — Consultation was given to the Los Angeles County Tuberculosis and Health Association on a project to define the relationship between alcoholism and tuberculosis and to develop methods for concurrent treatment of both conditions. Staff surveyed State hospital commitment procedures for alcoholics with agencies concerned in Alameda, San Francisco, and Los Angeles counties. A post-jail release rehabilitation demonstration was conducted in connection with the San Francisco Adult Guidance Center's Alcoholism Treatment Clinic at County Jail No. 2. Assistance was given the San Francisco Medical Society and the Adult Guidance Center in planning an emergency medical treatment center for alcoholism and the establishment of a branch alcoholism clinic in a local hospital. A Division survey of the cost of alcoholism in Sacramento County was planned to integrate with a community survey of the alcoholism problem by the Community Welfare Council.

*Evaluation of treatment and rehabilitation* — Analysis was made of all patient data from the community alcoholic rehabilitation clinics, and methods are being developed with each clinic for special evaluation of their techniques and programs.

*Research* — The Division completed a five-year follow-up study of a group of alcoholics treated in three treatment centers in California. A screening device was developed for detecting persons at high risk of becoming alcoholics. This is based on opinions obtained from community leaders in a two-year interview survey. The present plan is to apply this screening device to selected groups in subsequent study years to test the soundness and reliability of these criteria for detecting pre-alcoholics. The Division joined the State Department of Corrections in a two-year investigation of the relationship between crime and the use of alcoholic beverages. A study of Los Angeles County Superior Court adult convictions for one year was made to determine types of association between crime and drinking behavior and differences between court dispositions made of nondrinkers and of heavy drinkers or alcoholics. A three-year drinking practices study, supported by the National Institute of Mental Health, was begun to develop and test methods for the collection of information on drinking behavior and its correlates in the general population. Another current study, supported by NIMH funds, is to determine the applicability of laboratory urine tests to the epidemiologic study or cirrhosis and alcoholism. Under contract to the Division, investigations were continued by the University of California into the physiological, pharmacological, psychological, and sociological aspects of alcoholism.



# DIVISION OF COMMUNITY HEALTH SERVICES

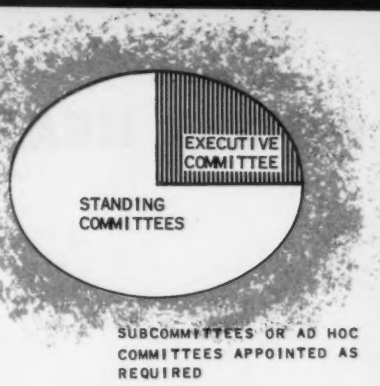
The main objective of the Division of Community Health Services is to encourage the development of sound and effective public health practice throughout California. The Division works toward this end by:

- Assisting communities and local public health departments to identify and meet their public health problems.
- Fostering the establishment of organized local public health services, and making these basic public health services available by contract to those parts of the State which are unable to provide them independently.
- Encouraging a high quality of public health practice at State and local levels.
- Stimulating the development of research projects in public health practice by local health departments and giving consultation on project applications.
- Arranging residency training of physicians in public health administration in the Department and in those local health departments approved by the Director for such training.
- Assisting local health departments in recruitment of all types of professional public health workers and providing job descriptions and salary information.


Problems still loom large:

- The continuing pressure and demands on local public health departments for more comprehensive programs and necessary services than they are now providing.
- Recruitment for local health department staffs of qualified professional persons in the various disciplines now needed in a modern public health department.
- The greatly increased population requiring public health services.
- The spread of metropolitan areas to encompass multiple health jurisdictions and complicate the provision of health services.
- The fragmentation of local health and welfare services and the need for closer coordination of the field services of State health and welfare agencies.

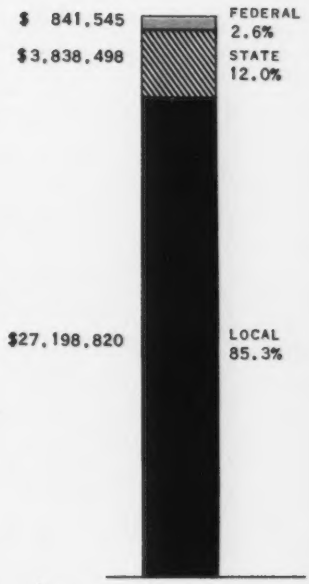
An important part of the Division's activity has been the provision of basic public health services to sparsely populated counties unable to provide these services independently and whose boards of supervisors have contracted with the Department for a joint arrangement of responsibility and support. At the time of the Division's reorganization, this section of the staff became the Bureau of Contract Services and remains under the Division's general administration.




CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS

Division in *all* community health activities. At the same time, reorganization was effected within the Division. The State was divided into three regions, and a medical coordinator and field consultants were assigned to each region. The Bureaus of Health Education, Nursing, and Social Work were transferred to the Division, and consultants in nutrition, laboratory practice, and environmental sanitation also were assigned by other Departmental units to assist the Division. In the case of environmental sanitation, this was done by creating a new General Sanitation Consultation Section, attached directly to the Division of Environmental Sanitation, for the purpose of working closely with the Division of Community Health Services. The new section is headed by a sanitary engineer with a consulting public health sanitarian for each of the three regions. Overall advantages of the coordinated regional system of field consultation are expected to be: improved State-local communication, better distribution of consultants, improved scheduling and coordination of consultative services, and a closer view of the operation of local health agencies, both public and private. Whether these expectations have been borne out will be the subject of a critical evaluation to be made during the next biennium.

An important part of the Division's liaison activities between the Department and the local health departments is the assistance it gives to the California Conference of Local Health Officers. Every California health officer is a member of this Conference, which is set up by law as an advisory body to the Department. The Division keeps the permanent records of the Conference, helps plan its meetings and those of its committees, publishes reports and minutes of meetings, and generally facilitates the Conference mechanism. During the biennium, the Conference continued its usual assessment of proposed or prospective legislation and supplied the viewpoint of the local health officers on such important questions as metropolitan health planning and subvention of funds to local health departments.




SOURCE OF FUNDS OF LOCAL HEALTH DEPARTMENTS

The present system of State financial aid to local health departments was set up by law in 1947 and has since been administered by the Division. It has proved valuable in encouraging the growth of local health departments and in raising their standards to meet State requirements for eligibility for funds. However, during the period of this report, the State Office of the Legislative Analyst appointed a special committee to find out whether local health departments still need subventions from the State, and the Division acted as resource staff to this committee. The committee's conclusion was that local health departments need State assistance funds even more now than when the subvention system was set up, since costs have risen and additional services are being demanded of local health departments. As a result, the County Supervisors' Association of California had legislation to increase State subventions to local health departments introduced in the 1961 Legislature.

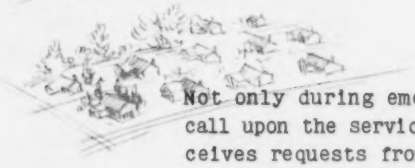
# *Bureau of*
# PUBLIC HEALTH CONTRACT SERVICES


In 1953, the Department initiated legislation to allow small rural counties of sparse population and limited tax resources to contract with the Department for basic direct public health services. The program has operated successfully as a joint activity of State and county with each agency participating in administrative and fiscal support. Under California's contract system, local interest, responsibility, and a large degree of autonomy is maintained. There is no standard contract and no stereotyped program; each is developed separately to meet the needs of that particular county.

Direct services to the contracting counties are carried on through the assignment of resident public health nursing and sanitation personnel, supervised by the Bureau of Public Health Contract Services. Laboratory services are provided by the Division of Laboratories. Consultants in health education and social work are members of the State central staff, and consultation is available from any Departmental unit. Each contracting county supplies the services of a physician as part-time county health officer, provides clerical staff, and maintains the office.

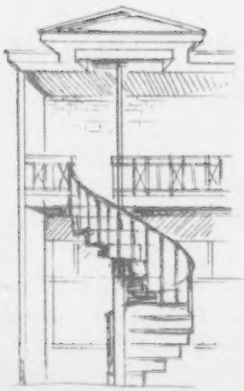
In the July 1, 1959 reorganization of the Division of Community Health Services, the Contract Services were given Bureau status. Since then, three more counties have contracted with the State for public health services, making a total of eleven. Most of the contracting counties are beautiful mountain areas visited by thousands for both summer and winter recreation, so that public health protection is necessary for these as well as the comparatively small number of residents. While the present permanent population of these counties is still small, tract development and resort building is booming in some areas. Individual septic tank systems are no longer adequate for sewage disposal. Better water supply and adequate central sewage disposal systems must be planned and required for future tract and resort developments if the present potential hazard of water pollution is not to become actual.

Sometimes there is a tremendous and sudden influx of people into these areas that taxes the combined public health resources of the Department and the contract county. During the biennium, the Winter Olympics of 1960 and the Trinity Dam project were examples.

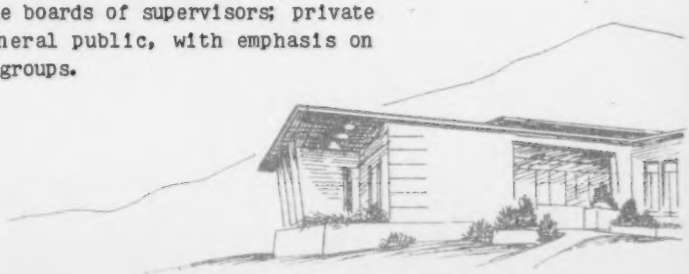


Not only during emergencies do the contract counties call upon the services of the Department. The Bureau receives requests from the counties for studies of needs of special groups, health surveys of their populations, and intensive educational programs. One such study of the needs of a special group, completed during the biennium, was that of the utilization of health facilities by the Indian population. The purpose was to design more effective health programs. Another was the demonstration project in Modoc County of the feasibility of home nursing services in a sparsely populated area. This was so successful that the county is continuing the service without project funds.

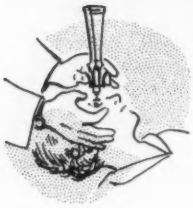
Special health surveys were made with various local State and Federal agencies to determine immunization levels, to find tuberculosis cases, to detect glaucoma, to assess school children's dental needs, and to identify mentally retarded children. Calaveras County opened their first public immunization clinic in 1961 after a survey showed that two-thirds of their first-graders were not effectively protected against smallpox. Tuberculin testing was done in one high school in Trinity, all high schools in Nevada County, and all elementary schools in Alpine County. Baseline dental decay surveys were made of all students in Trinity and Alpine County schools. Two surveys in Mono County located ten mentally retarded children for special treatment.



Intensive educational programs were focused on teachers and students in the areas of nutrition, dental health, and school health in general. One of the principal problems facing the Bureau is the continuing need for interpretation of public health to other groups. Important among these are: the part-time health officers; county officials, especially the boards of supervisors; private physicians; and the general public, with emphasis on certain underprivileged groups.



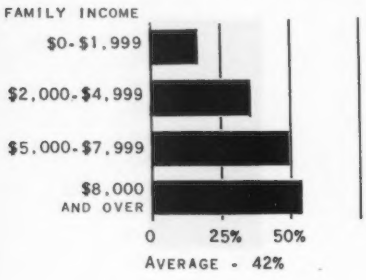
# *Bureau of* HEALTH EDUCATION



Education "bridges the gap" between what is *known* about health and what is *done* about health ——

Blindness from glaucoma can be greatly reduced if people over 40 regularly have an eye examination *including an eye-pressure test.*

PERCENT OF CHILDREN 0-14 YEARS VACCINATED AGAINST POLIOMYELITIS




CALIFORNIA HEALTH SURVEY, 1956.

The time lag is costly between the discoveries of science and their application ——

Since polio vaccine was discovered, crippling from polio has been mainly among underprivileged children. Low-income families can be motivated to be immunized, but effective methods have not been used by most communities.

Education helps people help themselves to health ——

The seasonal farm worker is an extreme example of a part of our population with little knowledge about health and health services.

To help everyone take effective action to improve their own, their family's and their community's health the Bureau of Health Education ——

Assists other staff in recognizing and providing opportunities for people to learn and to act —

- **Program planning**
- **Evaluation**
- **Consultation**
- **Methods training**
- **Informational materials**

Makes information available —

- **Reports**
- **Study guides**
- **Films**
- **Pamphlets**
- **Exhibits**

Works with people in other agencies and groups to strengthen the total health education effort —

- **Local Health Departments**
- **Other State Departments**
- **Voluntary Agencies**
- **Professional Societies**
- **Civic Organizations**
- **Schools**

The Bureau's SERVICES TO THE DEPARTMENT consisted mainly of —

Planning the educational aspects of new and continuing Departmental programs.

Development of educational methods including community organization, exhibits, and printed materials.

Assistance in the writing, editing, and preparation for printing of several important reports of programs and studies.

Editing of staff articles for publication in professional journals.

Help with papers to be given at professional meetings.

Editing of *California's Health*, the Department's official semimonthly periodical, with a mailing list of over 10,000.

The Bureau's SERVICES TO LOCAL HEALTH DEPARTMENTS included —

Completion of an evaluative survey of these services as a future guide to modification and improvement.

Staff visits of from one day to several weeks for continuing consultation or direct service.

Arranging six one-day regional meetings and one three-day institute to help keep local and State health educators abreast of latest developments in programs and educational practices.

Assistance to a local health department in planning and securing support for a health education demonstration project.

Development of several new pamphlets to add to those already available to local health departments for their distribution.

Selection of outstanding publications of other agencies and distribution of sample copies to local health departments.

SERVICES TO OTHER AGENCIES AND COMMUNITY GROUPS were expanded

Staff members —

Served on interdepartmental committees of State government.

Participated in the teaching program of the University of California School of Public Health.

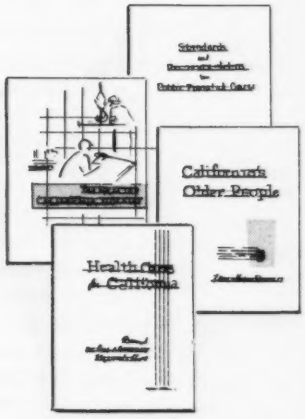
Helped plan and conduct four school health education workshops sponsored by State colleges.

Served the Farm Bureau Federation and the Migrant Ministry in extending their health programs for seasonal farm workers.

Continued to lend health films to responsible community groups and to give consultation on their use.

Assisted a combination of official and educational agencies in the script-writing and production of a film on Western encephalitis and gave consultation to another group of such agencies during the production of a venereal disease film for showing to community groups.

Arranged health education orientation programs of several weeks or months for more than 30 foreign students and public health officials at the request of the Department of State, the International Cooperation Administration, and the World Health Organization.




STANDARDS AND RECOMMENDATIONS FOR PUBLIC PRENATAL CARE

THE HEALTH OF CALIFORNIA WORKERS

CALIFORNIA'S OLDER PEOPLE

HEALTH CARE FOR CALIFORNIA

# Bureau of NURSING

The Bureau of Nursing works to promote the establishment or extension of nursing services needed in California communities and to support and improve those already established. The main concerns of the Bureau are for total patient care in the community and for the development of integrated community health programs, emphasizing continuity of nursing care. To assist communities toward this end, consultation is made widely available to health agencies and educational institutions.

Nursing consultation is directed toward meeting the Bureau's objectives by:

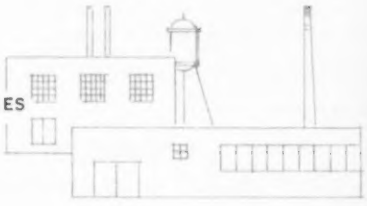
- Working with local directors of public health nursing and their hea officers to strengthen nursing programs, to improve nursing administ. tion, and to effect better utilization of nursing personnel.
- Helping communities to identify their health needs and to develop programs to meet these needs.
- Raising standards for nursing performance and patient care.
- Strengthening educational preparation of nurses.
- Recruiting adequate numbers of qualified nursing personnel for varying kinds of responsibilities.
- Promoting research related to needs for patient care and evaluation of nursing activities.

The Bureau works

- *through consultation to:*

HEALTH DEPARTMENTS

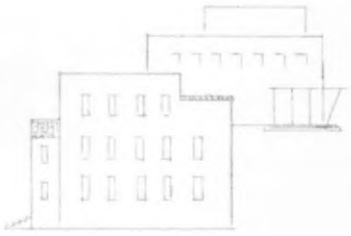

INDUSTRIES



HOSPITALS

VISITING NURSE ASSOCIATIONS

SCHOOLS OF NURSING



*on such things as:*

PROGRAM PLANNING
NURSING ADMINISTRATION
IMPROVEMENT OF NURSING PRACTICE
EFFECTIVE USE OF PERSONNEL
INSERVICE EDUCATION
CONTROL OF INFECTION
CURRICULUM DEVELOPMENT IN AREAS RELATED TO PUBLIC HEALTH
INDUSTRIAL HEALTH PROGRAMS

- *through provision of educational opportunities —*

STIPENDS FOR PUBLIC HEALTH NURSING PREPARATION

INSTITUTES, WORKSHOPS AND CONFERENCES *on:*

PUBLIC HEALTH NURSING ADMINISTRATION AND SUPERVISION
PUBLIC HEALTH NURSING FIELD INSTRUCTION
CURRENT DEVELOPMENTS IN PUBLIC HEALTH

The name of the Bureau was changed during the biennium, dropping the "Public Health" from the title, since the Bureau's services are not limited to public health agencies, which are only a portion of a community's total health program.

With the 1959 reorganization of the Department, nursing consultants were assigned to each of the three regions of the State to work with the Regional Medical Coordinator and other members of the core staff in a more closely integrated approach to local health problems.

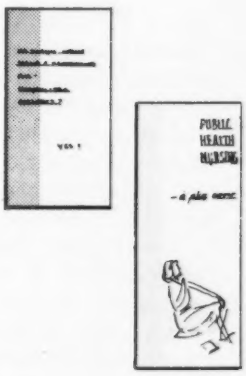
*Community programs* — • The Bureau assisted in a two-year demonstration in Modoc County to show the feasibility of providing home nursing care in a rural area. This was done by making use of the part-time services of registered nurses who are housewives living in the area. These nurses were given some preservice training and continuous inservice training in public health nursing and worked under the direction of a public health nurse. The demonstration was so successful that the county is continuing this home nursing service with county funds to supplement the fees collected from patients. • The Bureau also worked with the Bureau of Public Health Social Work and others concerned in encouraging provision of homemaker services to help with family care when the mother is disabled. • A two-year project was begun in Madera County to show the value of using trained nurse-midwives to provide continuity between prenatal care, delivery, and postpartum care. A selected group of patients in the county hospital is being given this type of care on a demonstration basis. • The mental health nursing consultant worked with staff of State hospitals and of local health and welfare agencies to plan services in the community for discharged mental patients and their families.

The Bureau is actively involved in nursing education at all levels.

*Nursing education* — • The Bureau provided consultation to schools of nursing and local public health nursing agencies on field training experience for student nurses. • A project was carried on in the Central Valley with the University of California Extension Service to provide classes and field experience in public health nursing for nurses employed in local health departments remote from universities. • Two five-day workshops were held at Cedars of Lebanon Hospital in Los Angeles for registered nurse supervisors of nursing homes with more than 25 beds. The purpose was to teach the principles of supervision in relation to patient care practices, emphasizing rehabilitation. • Eight two-day workshops were held for nursing home operators and personnel on rehabilitative nursing techniques, practices, and improved care of the aged. • The Bureau's consultative service to nurses employed in schools greatly increased during the biennium, and assistance was also given in an inservice education program for North Coast school nurses and administrators. • The Department and the University of California School of Nursing began a three-year project aimed at initiating training of nurses in California for leading parent education groups. The Department sent the two maternal and child health nursing consultants to the Child Health Study Association in New York to attend the first of a series of three-week training sessions to be held annually for three years. The U.C. School of Nursing plans to send one or two faculty members to the 1962 session. The few nurses and nursing faculty given this training are expected to be the nucleus for establishing this type of training in California.

**The Bureau works with such groups as:**

LOCAL HEALTH DEPARTMENTS
COMMUNITY AGENCIES
VISITING NURSE ASSOCIATIONS
LOCAL SCHOOLS
INDUSTRIES
HOSPITALS
NURSING HOMES
SCHOOLS OF NURSING
SCHOOLS OF PUBLIC HEALTH
PROFESSIONAL ORGANIZATIONS
STATE AND FEDERAL AGENCIES

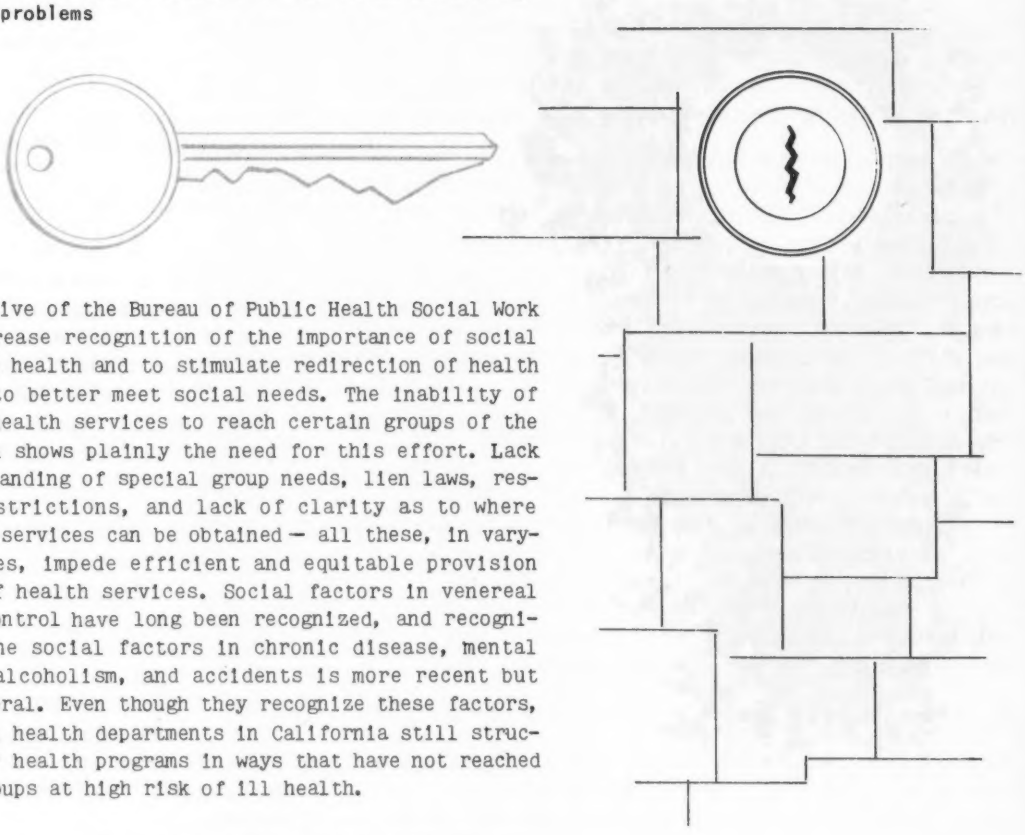



DO NURSING HOMES HAVE A RESPONSIBILITY FOR REHABILITATING PATIENTS? YES.

PUBLIC HEALTH NURSING — A PLUS CAREER

# *Bureau of* PUBLIC HEALTH SOCIAL WORK

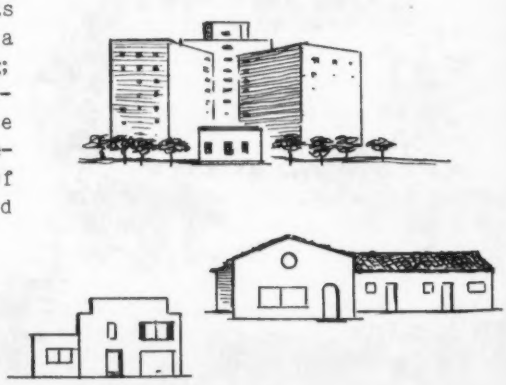
**RECOGNITION OF SOCIAL FACTORS is a key to understanding of health problems**



The objective of the Bureau of Public Health Social Work is to increase recognition of the importance of social factors in health and to stimulate redirection of health services to better meet social needs. The inability of existing health services to reach certain groups of the population shows plainly the need for this effort. Lack of understanding of special group needs, lien laws, residence restrictions, and lack of clarity as to where community services can be obtained — all these, in varying degrees, impede efficient and equitable provision and use of health services. Social factors in venereal disease control have long been recognized, and recognition of the social factors in chronic disease, mental illness, alcoholism, and accidents is more recent but quite general. Even though they recognize these factors, most local health departments in California still structure their health programs in ways that have not reached social groups at high risk of ill health.

Bureau staff have been increasingly called upon to participate in special Departmental projects and assignments directed to the quality and availability of health care. Among these during the biennium were: participation in a study of health needs of seasonal agricultural workers leading to development of a Departmental program; participation in planning for construction of hospitals and health centers with attention to the social aspects of care; participation in the development of criteria for selection of nursing home operators for licensing; development of the social content of the Hospital Licensing Act; studies of the quality of social service programs in hospitals leading to reorganization and development of standards; and studies of utilization of existing social services in hospitals for crippled children.

**THE INSTITUTIONS**



The Bureau of Public Health Social Work focuses efforts on stimulating the early identification and alleviation of social problems in public health. During the biennium, work with the California Conference of Local Health Officers has brought their collaboration in establishing new community services, developing new methods of rendering services, documenting health needs, and identifying local health department responsibility. Examples are: development of guides for local health departments in dealing with the social aspects of tuberculosis control and health officer certification of the mentally ill; demonstrations of newer methods of providing and coordinating health services to families on public assistance; selective consultation to local health department staffs on the social content of health needs; study of the social needs of families involved with teenage VD, as a first step in dealing comprehensively with prevention and control.

During the biennium, the Bureau worked with the Bureau of Chronic Diseases on the longshoremen's multiphasic screening project to develop methods for including social items in health screening programs.

The goals in current programs of prevention, public medical care, and rehabilitation have placed new importance on the quality of professional services, and the Bureau works to stimulate continuous assessment of social need in these services. Equally important to the Bureau is the development of hospital environments conducive to recovery and continuity of care between institutions and their communities. The Bureau has been encouraging the development of home health services to support institutional programs, but home care, homemaker services, and friendly visitor services are only in the early stages of development in California, and those already established are facing serious problems of financing and community support.

A prominent feature of the Bureau's activities during this report period was intensified collaboration with other State agencies. The Bureau worked with the State Department of Social Welfare in developing social work standards as part of criteria for certification of rehabilitation centers for use in the State's Medical Care Program administered by that department. The Bureau also initiated a cooperative project between the State Department of Public Health and the State Department of Mental Hygiene to arrive at the elements of a social policy for health that would provide a common focus for mental health and public health activities.

Training public health personnel to deal with social factors in health care is an important part of the Bureau's work. Training programs held for social workers in local health departments emphasized family-centered methods of social evaluation. Assistance was given to schools of social work and of public health in preparing social workers for public health practice, and arrangements were made for advanced educational opportunities for social workers in local health departments.

In this report period, the Bureau undertook its first organized research project. Under a grant from the National Institutes of Health, the project will examine Departmental consultative practices, consider consultation as a technique, and develop methods for evaluating the effectiveness of this technique in carrying out the Department's responsibilities.

**THE COMMUNITY**

**THE BRIDGE**

Homemaker service
Home care
Friendly visiting
Interagency coordination

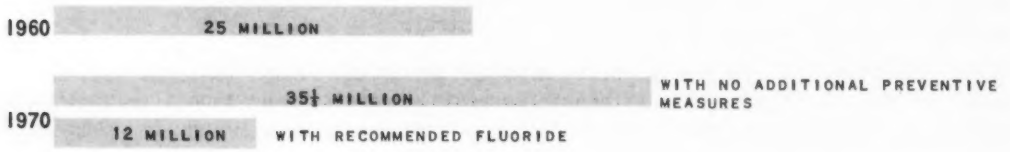
**THE GOAL**

To sustain
social competency

# DIVISION OF **DENTAL HEALTH**

The objectives of a Statewide dental public health program are to prevent or control oral diseases and to assist the people in achieving and maintaining optimum oral health. The Division of Dental Health works toward these objectives by providing leadership in the development of local programs through direct assistance, consultation, training, evaluative surveys, epidemiologic study, and research.

ESTIMATED NUMBER OF DECAYED TEETH IN SCHOOL CHILDREN

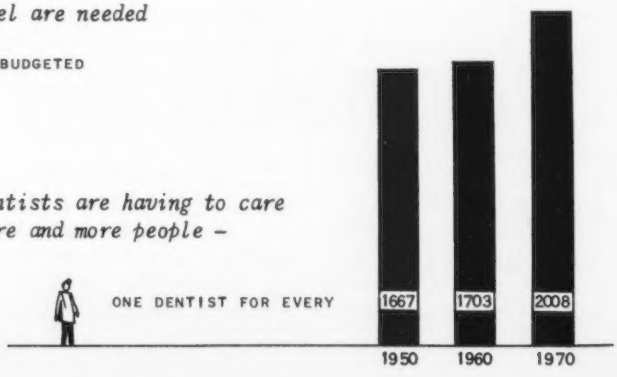



*Research* — The Division completed one phase of research on the maximum amounts of fluoride ion in relation to mean annual temperature to preclude mottling of tooth enamel. • On the Division's recommendation, the State Board of Public Health established a policy in 1959 on fluoride levels for public water supplies in California. • The Division received a research grant from the National Institutes of Health for a further study of enamel hypoplasias. • The Division conducted an epidemiologic study of adult dental needs in a group participating in a union dental care program. • Another study was made to identify periodontal disease and its relation to dental hygiene. • Technical assistance was given to the Bureau of Radiological Health in setting up the Department's system for registration of radiation sources. The Division's earlier study on radiation exposure in private dental offices proved extremely useful for this purpose.

*– More local dental health personnel are needed*

LOCAL HEALTH JURISDICTIONS WITH BUDGETED DENTAL OR PARADENTAL POSITIONS

*Our dentists are having to care for more and more people –*



Oral health is a most neglected area of total health, partly because dental diseases do not fit the public's concept of disease. If the serious effects of oral diseases on general health are to be recognized and preventive dental health programs made effective, dental health education is plainly the first step.

*Stimulation of local programs* — Local dental health programs are the most effective, but at present, only a few of California's health departments and large school systems have organized dental health programs with budgeted dental staff. During the biennium, the Division concentrated on "Start Where You Are" programs, showing that present health department and school personnel can be trained to assume leadership for a dental program with assistance from organized dentistry and Division staff. On this basis, the Division assisted the San Bernardino County Health Department in a successful demonstration of the development of a countywide dental health educational program in the schools. The Division developed a "Dental Health Program Guide for Local Health Departments", which was approved by the California Conference of Local Health Officers in 1960. Baseline dental surveys of school children were continued and assistance was given in other surveys.

*Dental public health* — Present dental needs far exceed the dental manpower available. A simple increase in numbers of dental and paradental personnel will not be enough. The need for preventive dental health programs and for public health orientation in dentistry is obvious. To help meet this need, the Division has conducted continuing professional training for practicing dentists and inservice staff education programs for health and school departments. A course in dental public health was conducted in one dental school and a series of lectures was given at other dental schools, schools for dental assistants, and both University of California Schools of Public Health. Help was given on extension courses in dental health for teachers.

*Fluoridation* — Two more California communities began fluoridating their water supplies. This makes a total of 18 communities which have taken this safe, effective, and economical way to cut tooth decay. To bridge the gap between the present time and the eventual, inevitable acceptance of fluoridation through public health education, the division has taken leadership in sponsoring a topical fluoride program.

*Handicapping oral conditions* — At the request of the Bureau of Crippled Children Services, the Division began consultation service related to the orthodontic aspects of the CCS services provided by the counties. Policy conferences were begun with the Pacific Coast Orthodontic Society and a reference manual is being prepared for use in CCS orthodontic programs. The Division assisted in standardizing diagnostic orthodontic screening clinics of the CCS program.

*Institutional dentistry* — Recognizing dental services to be an important part of rehabilitation, the State Department of Corrections requested the Division to make a survey in 1960 of these services in their eight institutions. All facets of the dental program were covered, and the recommendations for coordination and improvement were greatly appreciated. This is presumed to be the first such comprehensive evaluation of an institutional dental service made in the Nation.

## INDIVIDUAL ACTION

PROPER USE
OF TOOTH BRUSH

RESTRICTED
SWEETS

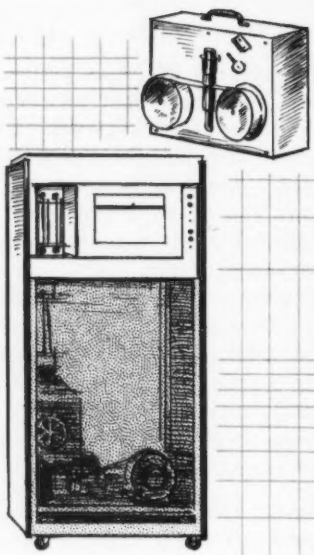
PROPER DIET

EARLY AND REGULAR CARE

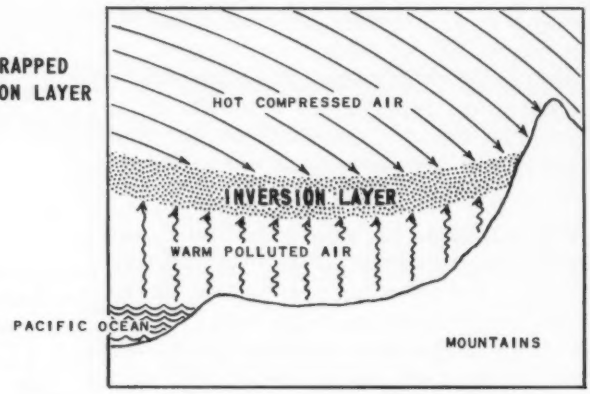
TOPICAL APPLICATION
OF FLUORIDE

# *Bureau of* AIR SANITATION

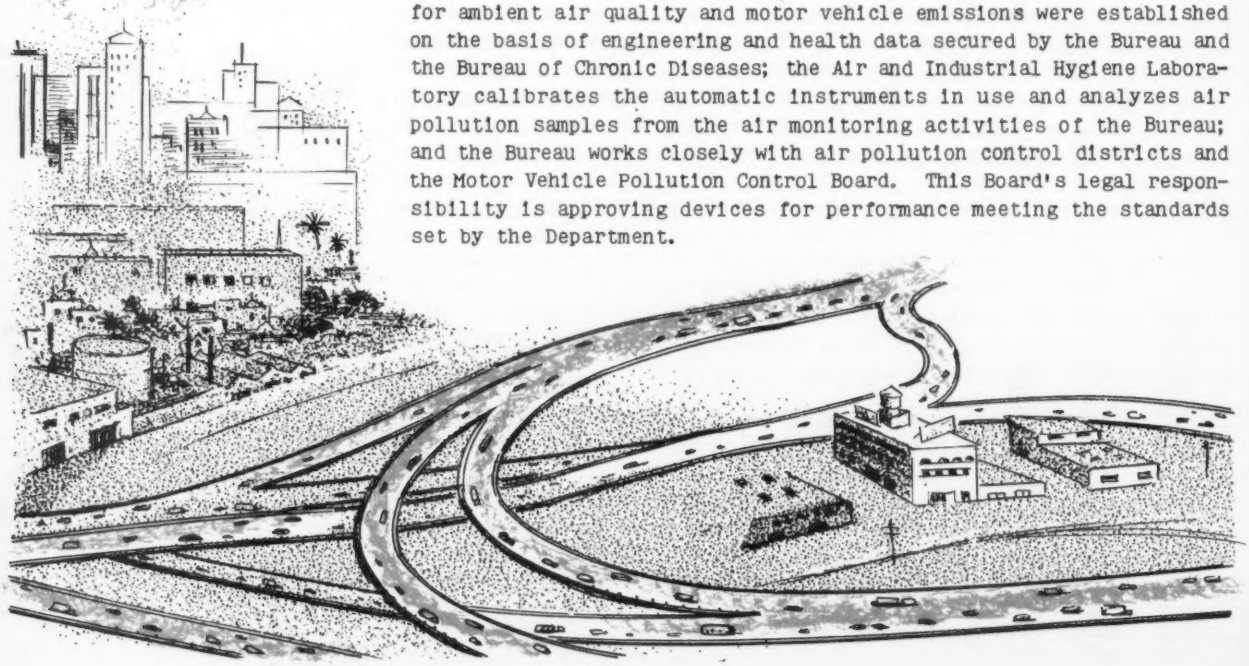
The Bureau of Air Sanitation makes use of many technical skills in the study of the multifaceted problem of air pollution. The efforts of engineers, chemists, meteorologists, and statisticians are combined in studies in many parts of the State. In addition to routine surveillance and statistical studies of air pollution levels, technical investigations are made of special problems such as industrial emissions, wind transport of air pollution, and development of data for revising and supplementing the air quality and motor vehicle emission standards.



**POLLUTED AIR TRAPPED BY THE INVERSION LAYER**




The work to be done in the Department's overall air sanitation program necessitates the closest cooperation between the Bureau and other Departmental units, as well as various other agencies. The standards for ambient air quality and motor vehicle emissions were established on the basis of engineering and health data secured by the Bureau and the Bureau of Chronic Diseases; the Air and Industrial Hygiene Laboratory calibrates the automatic instruments in use and analyzes air pollution samples from the air monitoring activities of the Bureau; and the Bureau works closely with air pollution control districts and the Motor Vehicle Pollution Control Board. This Board's legal responsibility is approving devices for performance meeting the standards set by the Department.



Modern man has been forced to realize that the air he breathes is a limited commodity. Californians have realized this sooner than residents of most parts of the United States because of the peculiar atmospheric conditions at the centers of dense population. The Department's air sanitation program began formally with legislative authorization in 1955. In 1959, the Legislature enacted laws giving the Department responsibility for establishing standards for air quality and for the pollutants emitted from motor vehicle exhaust pipes. The 1960 Legislature amended the law to include pollutants discharged from crankcases, carburetors, gas tanks and other parts of motor vehicles.

*Atmospheric monitoring* — • A total of six automatic monitoring stations were set up by the Department. Most of these make measurements in areas not covered by air pollution districts. Others were placed strategically to measure travel of polluted air from metropolitan areas. Local personnel assist in operation of the stations.

*Data collection and evaluation* — • The Bureau receives, analyzes, and reports on all air contaminant measurements made in the State. • The Bureau's quarterly carries a data section containing the daily maxima for these air quality measurements.

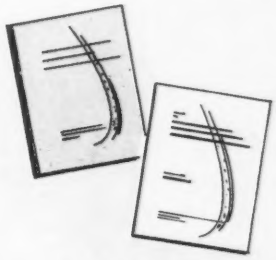
*Setting standards* — • Work done during the latter half of 1959 enabled the State Board of Public Health to adopt a first set of standards for ambient air quality and exhaust emissions in December of that year. The air quality standards included values for "oxidant index", carbon monoxide, sulfur dioxide, and particulate matter. Those for motor vehicle exhaust emissions included carbon monoxide and hydrocarbons. • Further work by the Bureau permitted the adoption of crankcase hydrocarbon standards by the Board in December 1960. The Department's pioneering work in setting standards for air quality and motor vehicle emissions is being watched with interest by other states and other countries.

*Examples of special studies* — • An 18-month study carried on by the Bureau with the Los Angeles County Air Pollution Control District and the Public Health Service showed that, depending on the season, between 350 and 450 tons of oxides of nitrogen are discharged per day from nonvehicular sources in Los Angeles. • A detailed study of meteorological factors during several air pollution episodes in San Diego County indicated that transport of pollutants by air masses from Los Angeles County was a factor, but that such transport is probably infrequent and confined to the fall season.

*Assistance to local agencies* — • The Bureau gave assistance to local health departments and air pollution districts in studies of air quality, coordination of monitoring networks, technical assistance on control of "point source" air pollution, formulation of air pollution ordinances, and technical advice on location and performance standards for air polluting industries.

*Education and information* — • The Bureau issues THE CLEAN AIR QUARTERLY for persons concerned with or interested in this field. • Talks, both technical and popular, contributed to various groups' understanding of the air pollution problem.

AREAS INCLUDED IN
AIR POLLUTION CONTROL DISTRICTS
JULY 1, 1961

CALIFORNIA STANDARDS FOR AMBIENT
AIR AND MOTOR VEHICLE EXHAUST

TECHNICAL REPORT OF
CALIFORNIA STANDARDS FOR AMBIENT
AIR AND MOTOR VEHICLE EXHAUST
#1 CRANKCASE EMISSION STUDY

# Bureau of FOOD AND DRUG INSPECTIONS

The Bureau of Food and Drug Inspections works to ensure the safety, wholesomeness, and purity of the California food and drug supply. Insistence on honest representation through truthful labeling and advertising is part of this effort.



During 1960, the Bureau ——

- Supervised the canning of 53 million cases of low-acid foods to control BOTULISM.

- LICENSED AND INSPECTED:

  Canneries - 164
  Cold storage plants - 317
  Egg product processors - 42
  Frozen food lockers - 312
  Horsemeat slaughterers and distributors - 24
  Walnut shellers - 56
  Commercial bottlewashers - 150
  Olive oil producers and bottlers - 64

- Found unfit for human consumption and QUARANTINED, CONDEMNED, and DESTROYED:

  4,723,257 pounds of food and drugs
  12,194,000 pounds of raw fish

- Maintained DRUG STANDARDS

- GATHERED EVIDENCE for prosecution of food and drug law violators

- Enforced the State's KOSHER FOOD law in markets, delicatessens, and restaurants selling or serving kosher food.

## NEW LEGISLATION

*In the usual pattern of conforming to improved Federal laws, the California Hazardous Substances Act and the California Cosmetic Act were enacted for the protection of the consumer. The Legislature also adopted food and color additive amendments to the State's pure food and drug laws. The California Pure Drug Act was amended to require that records of clinical findings be kept available on new drugs distributed for investigational use. This is to prevent over-the-counter sale of drugs labelled "For use by physicians only". A new and improved Restaurant Act was passed covering itinerant eating places, vehicles, and vending machines as well as restaurants.*

California seems to attract more than its share of quacks selling foods, drugs, and therapeutic devices. The quacks range from the deluded to the callously criminal, but their activities may be equally harmful. Unscrupulous businessmen are in the minority, but if those few are not curbed by inspections and licensing standards, filthy and decomposed foods may be sold or served and counterfeit or bootleg drugs sold to large numbers of consumers. The Bureau of Food and Drug Inspections acts as a *regulatory agency* enforcing the food and drug laws and regulations and as a *consultative agency* meeting with industry to resolve problems, maintaining close relationships with local health departments, the Federal Food and Drug Administration, and other State and federal agencies concerned, conducting an educational program, and promoting legislation to protect the consumer.

Botulism control is especially important in California because climatic conditions are conducive to the prevalence of the botulinus bacillus in the soil. California's unique Cannery Inspection Act provides for licensing by the Department of premises canning low-acid foods and sets up an elaborate control system for processing such products. During the past two years, the Bureau maintained a field inspection force for supervision of the 167 plants under license and inspection. Each community canning center is also supervised by an inspector certified by the Bureau. The Department also licenses and inspects seven other industries: *frozen food locker plants*, in order to control sanitation, temperature facilities, and storage of unfit foods; *cold storage warehouses*, to assure foods are not kept for prolonged periods; *egg product processors*, to see that requirements are met for egg breaking, liquefying, freezing, drying, or importing egg products; *horsemeat slaughterers and distributors*, to avoid consumption of uninspected horsemeat by humans and to prevent its substitution for beef; *walnut shellers*, to maintain sanitation and to control insect-infested, unfit walnut meats; *olive oil producers and bottlers*, to ensure sanitation and to prevent production of imitation olive oil or dilution of olive oil with cheaper oils; and *commercial washers of used bottles intended for food and drug packaging*, to control cleanliness and sterility.

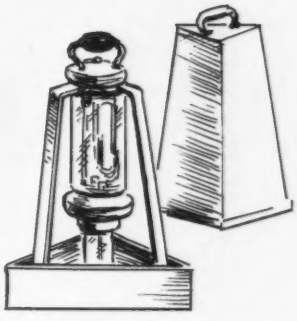
Inspectors maintain surveillance over salvage of all foods and drugs subjected to any disaster, and unfit merchandise is destroyed. This program has served as a model for several states.

Responsibility for the restaurant inspection program at the State level was transferred to the Bureau. Direct service is given in areas without organized public health services. Evaluative surveys are made of local inspection programs and dishwashing seminars are held.

The Bureau's responsibilities for insuring safe and effective drugs and devices are far-reaching, but present laws dealing with quackery are inadequate. Sixty-six cases were investigated during the biennium, and the quacks were successfully prosecuted. Here are examples: A worthless device, touted as a "cancer cure by silent music", was investigated; the promoters were found guilty of false advertising, but the fines and jail sentences were light. After a four-year investigation and a 20-day court trial, a physician and nurse who used quack diagnostic devices and $100 injections of tap water for sure "cure" of cancer, were found guilty and placed on probation.

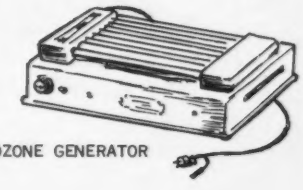
**QUACK DEVICES**


FILM-O-SONIC



RADIUMATOR

RADON BELL



OZONE GENERATOR

# *Bureau of* RADIOLOGICAL HEALTH

Radiological health is the newest significant program area in public health. Most of the activities of the Bureau in this field thus far have been fact-gathering, surveillance, and planning.

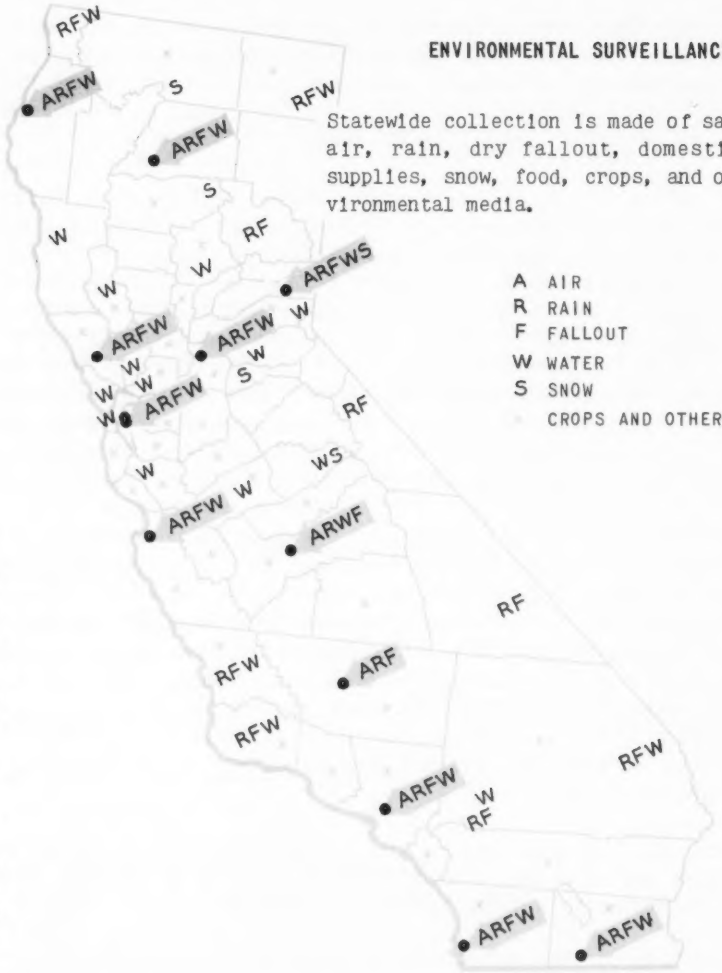
## REGISTERED RADIATION SOURCES

NUMBER OF REGISTRATIONS
BY TYPE OF SOURCE
MARCH 15, 1961

| | |
|---|---|
| TOTAL | 13,102 |
| RADIATION MACHINES ONLY | 12,334 |
| RADIOISOTOPES ONLY | 343 |
| BOTH RADIATION MACHINES AND RADIOISOTOPES | 425 |

NUMBER OF REGISTRATIONS
BY NATURE OF INSTALLATION
MARCH 15, 1961

| | |
|---|---|
| TOTAL | 13,102 |
| DENTIST | 5,737 |
| MEDICAL DOCTOR | 3,558 |
| CHIROPRACTOR | 916 |
| OSTEOPATH | 586 |
| PODIATRIST | 328 |
| HOSPITAL | 485 |
| VETERINARIAN OR VETERINARY HOSPITAL | 465 |
| MISCELLANEOUS MEDICAL SERVICES | 389 |
| EDUCATIONAL AND GOVERNMENTAL | 173 |
| MANUFACTURING, SERVICE AND OTHER INDUSTRIES | 465 |




## ENVIRONMENTAL SURVEILLANCE

Statewide collection is made of samples of air, rain, dry fallout, domestic water supplies, snow, food, crops, and other environmental media.

A AIR
R RAIN
F FALLOUT
W WATER
S SNOW
CROPS AND OTHER

## FUTURE PLANS CALL FOR REGULATION, CONTROL AND INSPECTION

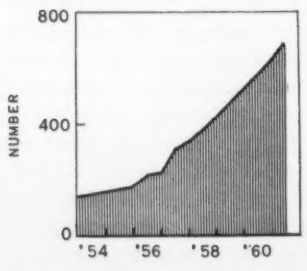
1961 legislative action strengthens Department program

**AB 1975** — CONTROL BY LICENSING, INSPECTION, AND SETTING SAFETY STANDARDS

**AB 1549** — SURVEILLANCE OF RADIOACTIVE WASTE DISPOSAL
RADIOLOGICAL MONITORING NEAR REACTOR SITES
SAFETY CONTROL OF RADIOACTIVE TRACER STUDIES

**AB 1634** — REGULATION OF INTRASTATE TRANSPORTATION OF RADIOACTIVE MATERIALS

ATOMIC ENERGY COMMISSION
BY-PRODUCT MATERIAL LICENSES
CALIFORNIA, 1954-1961



The Department's specialized radiological health program began when the 1959 Legislature appropriated funds for this purpose and made it mandatory that all radiation sources in the State be registered with the Department. In August 1959, the Director set up a Radiological Health Core Unit, which became the Bureau of Radiological Health in March 1960. The specific responsibilities assigned and some of the activities under each are outlined below.

*Registration* — After months of study, consultation, and discussion with concerned persons, registration regulations and forms were drafted. The State Board of Public Health adopted the regulations in April 1960, and by July 1961, more than 90 percent of radiation source possessors were estimated to have registered.

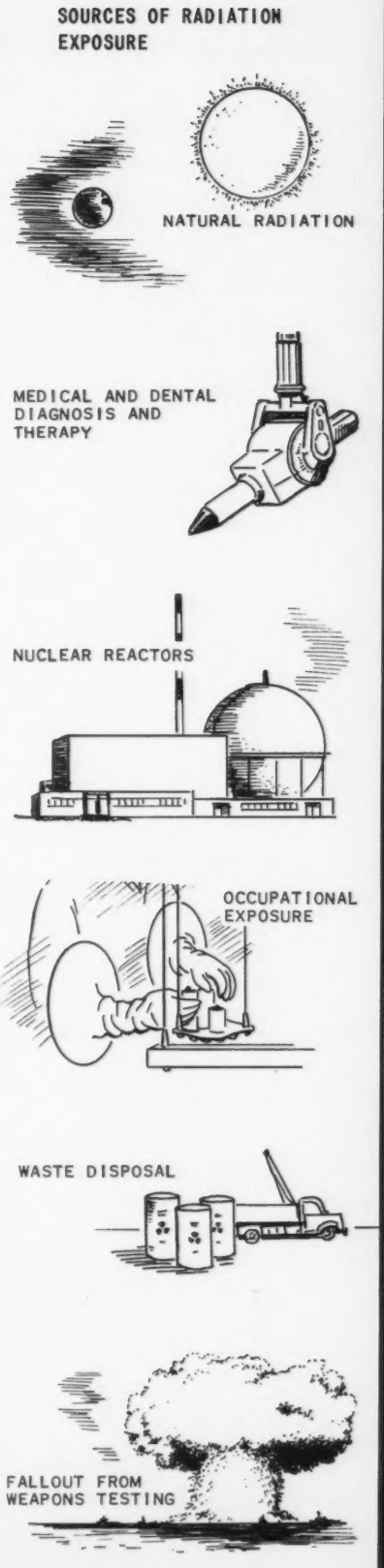
*Environmental surveillance* — Routine collection of samples for laboratory analysis was begun. Among the environmental media sampled are air, dry fallout, rain, soil, vegetation, fish and various other foods. Since major nuclear installations conduct localized environmental surveillance programs, the Bureau set up cooperative relationships to permit intercomparison of results and allow the Department to keep track of any environmental contamination from these installations.

*Training in radiological health* — Some training was given to Bureau of Sanitary Engineering staff responsible for surveillance of radioactive waste disposal, and sessions of three to four days were held for local health department and related personnel in three counties.

*Investigation of incidents* — To allay public anxiety over real or suspected incidents involving radiation, the Department must be able to respond quickly either with reassurance or necessary protective action. A number of such incidents were investigated, and none was found to be serious.

*Field tracer study surveillance* — Using radioactive isotopes as tracers in field studies requires their introduction into the environment, usually for tracing movement of something. The public health concern is that rather large amounts must be used, which once released pass from human control. In January 1959, the State Board of Public Health adopted a set of six criteria for evaluating safety of field tracer studies. Using these, the Department reviewed a number of tracer studies in advance and observed their entire operation.

*"Point source" inspections* — This term refers to discrete identifiable sources of ionizing radiation. Inspection of "point sources" of radiation was a minor part of the Bureau's activity, but it will be a major part when the State assumes regulatory authority. To keep abreast of developments and as a training mechanism, staff accompanied Atomic Energy Commission inspectors on their field visits. Evidence indicates that the most important public health radiation problem at present is unnecessary patient exposure to X rays, the widespread "point sources" of radiation used in the healing arts. If the best equipment and practices were to be used, patient exposure could be reduced to a tenth of the present levels without interfering with the diagnostic and therapeutic use of X ray. Reduction by half in five to eight years seems to be a reasonable goal for radiological health activity.



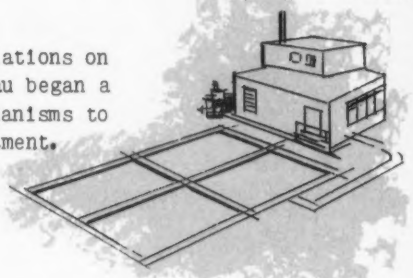
# *Bureau of* SANITARY ENGINEERING

The Bureau of Sanitary Engineering has responsibility in five main areas —

## WATER SUPPLIES

Excessive mineral content in domestic drinking water is a problem related to water scarcity in some parts of the State. In August 1959, the State Board of Public Health adopted an interim policy setting limits for total solids and certain minerals in drinking water. Coalinga, in Fresno County, pioneered in the use of an ionic electric membrane demineralizer. The Department gave consultation and laboratory service throughout this successful demonstration, the first such municipal use in the United States.

## WASTE DISPOSAL

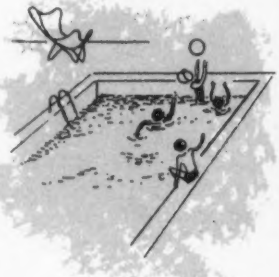


As a basis for future revision of regulations on the use of sewage and sludge, the Bureau began a study of the ability of *Salmonella* organisms to survive various methods of sewage treatment.

## SHELLFISH SANITATION

California is now the fourth largest oyster-producing state. After a hepatitis outbreak from oysters in Mississippi, the Bureau stepped up surveillance of California oyster beds and packing plants.

## SWIMMING POOL SANITATION



New swimming pool regulations were drafted by the Bureau and adopted by the State Board of Public Health in December 1960. The Bureau conducted a series of conferences with local health departments for discussion and interpretation of the regulations.

Bureau staff, together with personnel from the Atomic Energy Commission, carried out the Department's legal responsibility for inspection of ocean disposal of radioactive wastes from industrial, medical, and research establishments.

## RADIOACTIVE WASTE DISPOSAL

Man's perennial struggle to keep ahead of his wastes is becoming more and more difficult. Increasingly large volumes of sewage and the mushrooming growth of unsewered residential areas have created unprecedented difficulties in waste disposal. The need for adequate sewage treatment plants and collection systems remains critical. Huge quantities of radioactive and chemical wastes are posing additional disposal and health problems. Although many agencies work together on all these problems, the main responsibilities of the Bureau are in safeguarding domestic water supplies and in administering the laws governing safe disposal of sewage and other wastes, including radioactive wastes.

Population pressure and shortage of available water have aroused interest in the re-use of waste water. The Department's responsibility is to assure that re-use is not hazardous to health, that the treatment is compatible with the use, and that each use is esthetically acceptable to the public. This has required a number of studies by the Bureau and will require more in the future. From the evidence gained in these studies, the Bureau is urging better sewage treatment including higher chlorine residuals where people may come in contact with effluents.

Several violations of the regulations on the use of sewage for irrigating fruits and vegetables were investigated, and corrective action was taken.

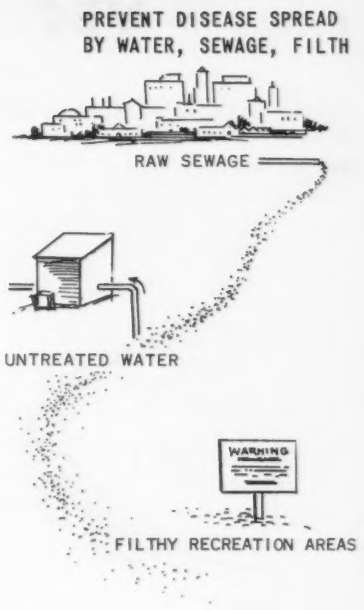
Developments in the Lake Tahoe Basin and the 1960 Winter Olympics area are striking examples of critical problems of sewage disposal and safe water supply in recreational areas. Bureau staff spent much time and effort with Nevada and California agencies concerned and much more will be required.

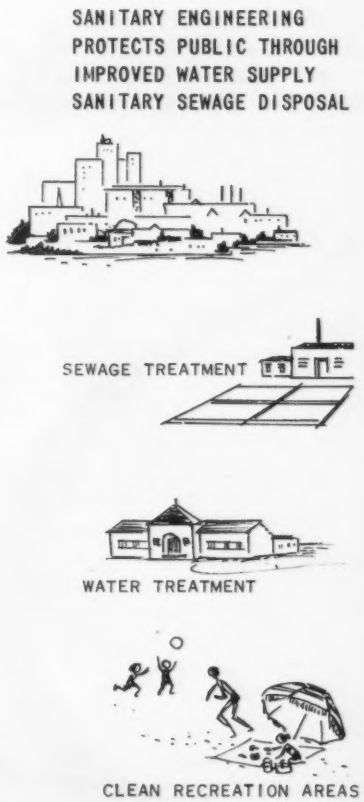
Since little is known about the effects on water quality of the recreational use of reservoirs, the Bureau received a special appropriation to study these effects. In general, the study showed that recreational activities may degrade the quality of reservoir water, but that compliance with sanitary regulations should minimize the effects. Regulations were drafted on this basis, and the State Board of Public Health adopted them in 1959.

Evaluation of applications for water supply permits has been complicated by the development and proposed use of "short cut" water treatment processes. Coupled with the proposed use of these new processes is the growing concern over the possible transmission of viral diseases by water supply. Knowledge about the resistance of viruses to water treatment is still incomplete, but research is being intensified in this area.

A shigellosis outbreak in a small city was traced by the Bureau and the county health department to inadequacy of the water supply and sewage disposal systems. Department action forced the city to make immediate temporary correction, and permanent improvement is underway.

During the biennium, Bureau staff supervised loading and ocean disposal of radioactive wastes on 38 voyages. These wastes consist essentially of rags, paper, dead laboratory animals, and liquids. The solid wastes are placed in 55-gallon oil drums and filled with concrete. The liquid wastes are solidified before final packaging in concrete barrels. Some very active or bulky wastes are specially packaged in large concrete cylinders or blocks. Packaged wastes were dumped at depths in excess of 6,000 feet.



# *Bureau of* VECTOR CONTROL

Vector control protects the people of California from disease and discomfort caused by insects, rodents, and other vectors. Important vector sources are:

WATER

Irrigation is responsible for a substantial proportion of the mosquitoes in inhabited parts of California. Today there are over 8,000,000 irrigated acres in the State, one-fourth of the Nation's total. When the California water development program matures, the irrigated acres may reach 20,000,000.

ORGANIC WASTES

Less than a fifth of California's communities have satisfactory waste disposal operations, and only a start has been made on the increasingly urgent problem of sanitary disposal of agricultural and industrial wastes.

IMPORTANT VECTORS

**MOSQUITOES**
transmit viral encephalitis and malaria, but the general public is more aware of pest mosquitoes because of the extreme discomfort they bring.

**TICKS AND FLEAS**
carry several serious diseases from their small animal hosts to human beings. The more important diseases are Rocky Mountain spotted fever, relapsing fever, Colorado tick fever, plague, murine typhus, and tularemia.

**FLIES AND GNATS**
are mainly pests and nuisances causing great discomfort and economic loss. However, flies may spread diarrheal diseases. One species of gnat causes conjunctivitis, and the bite of another species is very painful.

**SNAILS**
of certain aquatic species are hosts to a worm that escapes into water, burrows into the skin of swimmers and causes a dermatitis called "swimmer's itch".

The biennium was characterized by continued population growth and abnormally low rainfall, bearing oppositely upon the vector problems of California. Since vectors are largely a by-product of population, the vector potential continued to increase. The low rainfall and snowpack temporarily lessened the mosquito population and mosquito-borne encephalitis. The greatly expanded use of recreational areas has increased vector problems. Even more serious problems are being posed by the competition for operating space between agriculture and communities, especially in relation to disposal of organic wastes. Anguished complaints of flies, odors, dust, and unsightliness are increasing as growing numbers of people surround dairies, poultry establishments, livestock operations, and community waste disposal areas.

*Refuse management* — Present inefficient and wasteful methods of refuse disposal must soon be replaced by sounder and more economical measures. However, fill-and-cover operations are better than open dumps, and improvement was made in some communities by converting to this method.

*Fly control* — Comprehensive surveys of the domestic fly problem were made for two counties and were begun for two others. A number of cities and counties passed ordinances to outlaw flies, despite the fact that an ordinance without a preventive program is useless.

*Mosquito control* — Three dry years reduced the mosquito population. Mosquito surveys were conducted in four counties, and a survey was started of the problem of snow mosquitoes in mountain recreation areas.

*Gnat control* — The Clear Lake gnat problem became even more complicated when heavy amounts of DDD were found in the tissues of the lake fish after three control treatments between 1949 and 1957. The Department with State Departments of Fish and Game and of Agriculture, prohibited further use of chlorinated hydrocarbon insecticides for gnat control. The local Mosquito Abatement District was obliged to search for other methods, and the Bureau is assisting them.

*Rodent control* — • Two cases of human plague in 1959 resulted in extensive rodent ectoparasite surveys. Plague was found in fleas from several species of rodents in a relatively confined mountainous area. Follow-up surveys in 1960 netted no further plague findings. • The locale of five cases of relapsing fever was studied to evaluate conditions responsible for these infections.

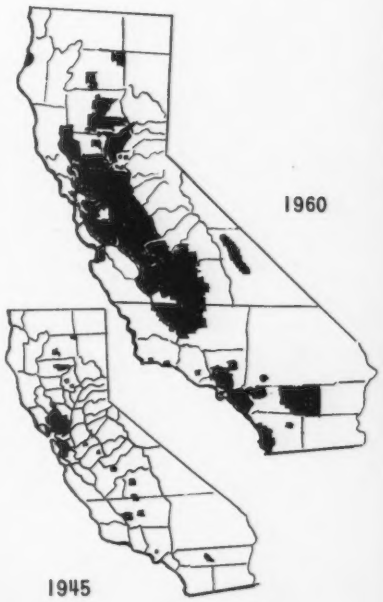
*Research and studies* — • As part of the Bureau's insecticide testing activities, a new phosphate-type insecticide, known as Bayer 29493 was recommended for mosquito control. It is almost as toxic to mosquitoes as parathion, but much less hazardous to warm-blooded animals. • Collaborative studies were made of parathion residues from normal application practice in mosquito control. • A unique study was conducted by personal interviews of farmers in one county to determine the means influencing them to carry out changes in farming practice. The results can apply to adoption of mosquito source reduction practices.

*Education and information* — More than 50 technical and scientific papers were published by Bureau staff in professional journals and in the Bureau's quarterly publication, VECTOR VIEWS, which goes to agencies and individuals concerned with vector control.

*The Bureau of Vector Control, in addition to working with local health departments, has program relationships with:*

MOSQUITO ABATEMENT DISTRICTS
SPECIAL VECTOR CONTROL AGENCIES
PEST CONTROL FIRMS
FARM ADVISERS
COUNTY AGRICULTURAL COMMISSIONS
UNIVERSITIES AND COLLEGES
SPECIAL CITIZENS COMMITTEES
STATE INSTITUTIONS
CITY AND COUNTY GOVERNMENTAL AGENCIES
CONSERVATION AND RECLAMATION AGENCIES

MOSQUITO ABATEMENT AGENCIES



# DIVISION OF **LABORATORIES**

The Division of Laboratories is organized into seven laboratories to provide laboratory support for the programs of the Department, to develop and improve laboratory procedures, to conduct research, to give consultation and reference service to local public and private laboratories, and to administer laws and regulations relating to public health, medical, and biological laboratories. Clerical, statistical, and technical services, including laboratory animal care and supply of glassware and culture media for all seven laboratories, are centralized in the Division.

During the biennium, the greatest growth was in the Sanitation and Radiation Laboratory, the Air and Industrial Hygiene Laboratory, and the Viral and Rickettsial Disease Laboratory to meet the needs of the Department's expanded programs in radiation, air pollution, and diagnostic service for viral diseases.

The following pages give highlights of each laboratory's activities during this report period.

AIR AND INDUSTRIAL HYGIENE

FOOD AND DRUG

LABORATORY FIELD SERVICES

/

BRANCH PUBLIC HEALTH LABORATORY
(LOS ANGELES)

/

MICROBIOLOGY

/

SANITATION AND RADIATION

/

VIRAL AND RICKETTSIAL DISEASE

/

# AIR AND INDUSTRIAL HYGIENE LABORATORY

Departmental programs in air sanitation and occupational health require complex laboratory support and specialized service in instrumental analysis. These are the responsibility of the Air and Industrial Hygiene Laboratory.

*Environmental studies* — The Department's air monitoring program required analysis of high volume filter samples, periodic calibration of automatic recording instruments in use in the field and in the laboratory, and daily oxidant measurement for the surveillance network.

Gas chromatography was used in the measurement of ethylene in the air in a study of potential air pollution damage to vegetation.

To prevent lead poisoning, a method was improved for the rapid testing of the suitability of glazes on dishes for food service.

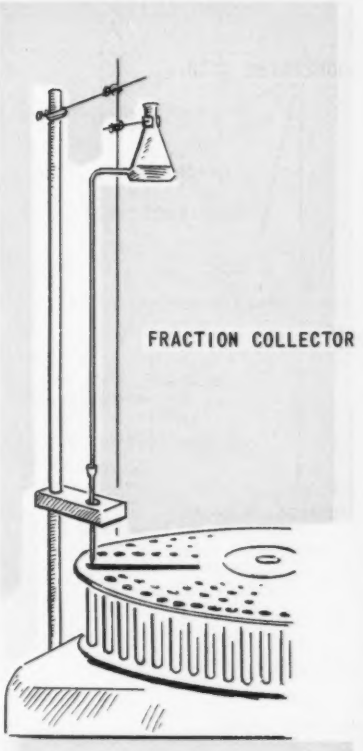
*Research and methods development* — The Laboratory made significant contributions to the development and improvement of methods for measurement of air pollution and of hazards in the industrial environment.

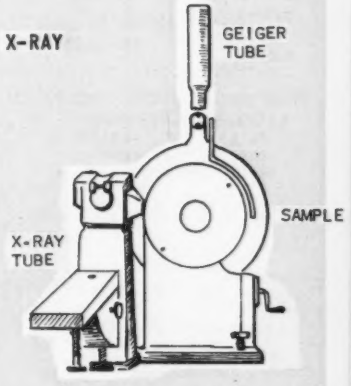
Staff worked with an interagency committee to develop uniform methods of air pollutant analysis and calibration of the automatic instruments used for monitoring air quality in the State. Studies were initiated on the biochemical effects of ozone. A simple method was developed and published for collection and analysis of mercaptans in air. Research continued in the development of efficient methods for assaying potential carcinogens in the atmosphere. Existing equipment and techniques were simplified and refined for study of atmospheric aerosols and their significance in air pollution. A compact gas dilution unit was designed to replace bulky field equipment for standardization of atmospheric analyzers. The Laboratory collaborated with the U.S. Bureau of Mines Petroleum Research Center in the evaluation of methods for analysis of motor vehicle exhaust.

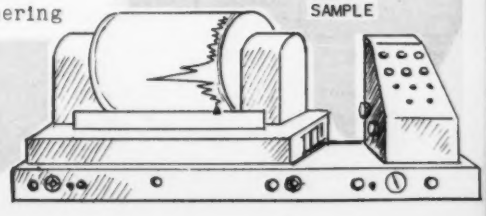
Methods were developed for the measurement of carbon monoxide in expired air and in the blood and applied to the study of the physiological effects of smoking and atmospheric carbon monoxide. A study of urinary zinc excretion and its relation to cirrhosis was undertaken with the Division of Alcoholic Rehabilitation under a Federal grant.

*Consultation and assistance* — Consultation on air quality measurement and on assessment of occupational hazards was given to local health department laboratories, air pollution control districts, and other agencies. Reagents were provided to many of the local laboratories in the oxidant surveillance network, and reference service was given for standardization of measurements.

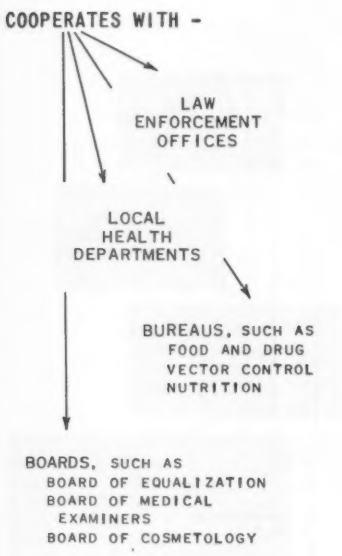
*Training* — The Laboratory organized conferences on study methods in air pollution and in industrial hygiene, carried on a seminar program for staff inservice training, and gave summer training to medical students. Several staff members completed advanced courses at the University of California and at the USPHS Taft Sanitary Engineering Center in Ohio.



# FOOD AND DRUG LABORATORY




The main function of the Food and Drug Laboratory continued to be the analysis and examination of foods, drugs, and vitamin preparations for purity and strength. All official samples in this connection required interpretation of the scientific data in terms of legal, toxicological, technical, pharmacological, administrative, and public health significance.

Other functions of the laboratory are best shown by examples of activities during the biennium.

*Laboratory determination of the sanitary quality of foods* — • To help appraise the extent to which farm workers might contaminate lettuce with excreta if toilet facilities are lacking in the fields, numerous heads of lettuce were examined for fluorescent stains, and chemical tests were made for urea in these stains.

*Toxicological analyses* — • A method was developed to screen meat products for accumulations of animal-feed spray residuals, using abbreviated separation techniques and direct ultra-violet spectral absorbence measurements. • Exploration of other methods of screening food samples for pesticide residuals was begun. • A method of bio-assay using brine shrimp was also developed.

*Identification of ingredients or components of products, devices, and materials* — • Identification and quantification tests were made of about 100 drug preparations in unapproved use for treatment of cancer.

*Consultative service and inservice training for personnel of other laboratories* — • Important objectives of these activities are to stimulate growth of local laboratories and to promote their handling of local food and drug problems. A policy statement was drawn up to this effect.

*Development, evaluation, and improvement of laboratory methods* — • A study was begun to determine the minimum amount of biologically available water in foods necessary for growth of spores of *Clostridium botulinum*. • Analytical problems in identifying specific dyes used to color foods were resolved. • Flame photometric methods were investigated and used in an extensive survey of the sodium and potassium content of special dietary foods. • During the cranberry-aminotriazole incident, a new improved method was developed, evaluated, and used in the course of three days and was later recommended for use by the U.S. Department of Agriculture. • A method for detecting cyanide in wine was refined and adapted for use with grapefruit.

**1959-1960**

| | Samples Analyzed | Determinations Performed |
|---|---|---|
| Total | 12,204 | 34,910 |
| Foods | 10,432 | 28,803 |
| Drugs | 799 | 2,243 |
| Other | 973 | 3,864 |

# LABORATORY FIELD SERVICES

LABORATORY FIELD SERVICES enforces and administers, through consultation and cooperation, the laws and regulations relating to -

## CLINICAL LABORATORIES

California is the only state requiring licensure of all clinical laboratories and their professional personnel. In this way, the careers of over 8,000 medical laboratory scientists are guided.

Over 1,300 clinical laboratories, serving the medical profession, are now in operation in California, and they are being licensed or relicensed at the rate of one every working day.

An Advisory Committee of physicians, bioanalysts, and technologists helps to administer the laws and regulations. The Committee and selected consultants assist in developing and conducting examinations.

## PUBLIC HEALTH LABORATORIES

Forty-one county and municipal public health laboratories are approved by the Department. They provide most of the direct service to county and city health departments. Recruitment, training, evaluation, and consultation services are given or arranged for these laboratories.

## BIOLOGICS

The bulk of the work related to biologics is with blood banks. From 1945-1960, blood banking increased from 61,000 pints per year to nearly 500,000 and licensed blood banks increased from 28 to 43.

California was the first in the Nation to set regulations for human tissue preservation for use in therapeutics and research.

## LABORATORY ANIMAL USE AND CARE

The Department has legal responsibility for the care and use of warm-blooded laboratory animals in educational and research laboratories as well as in clinical and public health laboratories. With the growth of new surgical techniques, such as cardiac surgery, many new facilities are using laboratory animals and require consultation on their care.

## PREMARITAL AND PRENATAL TESTS

Almost 900 laboratories in the State are approved for performing these serologic tests for syphilis. The administration of the laws and regulations related to premarital and prenatal examinations for syphilis is complex and involves three other Departmental units. The responsibility of the Laboratory Field Services is to assure proper compliance.

*Cooperating groups include:*

### ADVISORY COMMITTEES

- Clinical Laboratory Technology
- Blood and Blood Derivatives
- Care of Laboratory Animals

### GOVERNMENTAL

- State Departments:
  - Justice
  - Agriculture
- California Conference of Local Health Officers
- Local:
  - County Clerks
  - Marriage License Bureaus
  - Law Enforcement Agencies

### STATE PROFESSIONAL ORGANIZATIONS OF:

- Pathologists
- Medical Laboratory Technologists
- Clinical Laboratory Bioanalysts
- Public Health Laboratory Directors
- Medical and Osteopathic Physicians
- Hospital Administrators

### OTHER ORGANIZATIONS

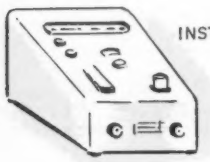
- Colleges and Universities of the State
- American Red Cross
- California Blood Bank System
- American Association of Blood Banks

# LOS ANGELES BRANCH PUBLIC HEALTH LABORATORY

CHEMICAL ANALYSIS

BACTERIOLOGICAL AND PLANKTONIC ANALYSIS





INSTRUMENTATION

MOBILE LABORATORY UNIT

The Branch Laboratory extends to the southern part of the State research, consultation, laboratory, and field services in air and industrial hygiene, sanitation, and food and drugs. Chemical, physical, biochemical, microbiological, and microanalytic laboratory tests are employed. Special studies in the field and in the laboratory increased in importance during the biennium. A mobile laboratory and laboratory facilities set up on-site were integral parts of activities.

The tremendous population increase in Southern California has intensified the shortage of safe potable water and the search for new sources. Problems of taste and odor, as well as health hazards from chemical content, contamination with sewage, and pollution with industrial wastes have increased with the population's demand for water.

As a result, there was a 200 percent increase in the chemical examinations of water and sewage, and the number of these samples submitted increased 300 percent.

An outstanding example was the examination of water supplies in eight counties because of the potential health hazard of concentrations of nitrate ion. Significant concentrations were found in a number of water supplies, especially in wells in farming areas where chemical and organic fertilizers are heavily used.

In the industrial field, laboratory examinations were made to determine the presence of dangerous concentrations of toxic materials such as selenium, beryllium, cadmium, lead, fluoride, and boron. Chemical studies were made at an underground cement mine and a phosphate plant.

The number of food and drug examinations did not greatly increase during the biennium, but the many and complex tests required by the cranberry-aminotriazole incident in 1959 were very time-consuming.

Staff gave frequent consultation service to public and private laboratories and to Departmental units and provided special training in methods and techniques to public and private laboratory personnel.

The staff kept up-to-date on new developments in laboratory analysis and intensified the program of investigation of problems and of development, standardization, and refinement of laboratory procedures.

Staff contributions to research published during the biennium included a titrimetric sulfate method, a new method for computing specific conductance of water, a new method for calculating K and L for sewage, and new and improved procedures for inclusion in the 11th edition of *Standard Methods for the Examination of Water and Waste Water.*

**1959-1960**

| | Samples Reported | Determinations Performed |
|---|---|---|
| Total | 19,170 | 59,603 |
| Food and Drug | 2,315 | 8,272 |
| Sanitation | 15,665 | 49,910 |
| Air and Industrial Hygiene | 1,190 | 1,421 |

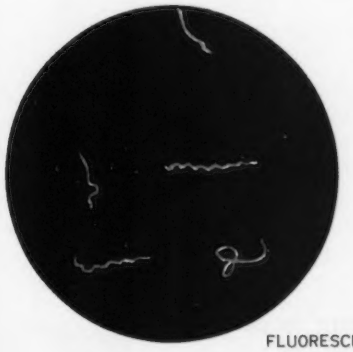
# MICROBIOLOGY LABORATORY

With the growth and strengthening of local public health laboratories, a more productive use is being made of the Microbiology Laboratory's services for consultation, evaluation of performance, and training of personnel. The Laboratory conducts a regular training program of junior microbiologists for positions in public health laboratories and provides inservice training as well. Some direct service is given to physicians in parts of the State without local public health laboratories, to counties under contract with the Department for public health services, and to various State institutions. The biologics unit has changed emphasis from production and sale of diagnostic biologics to service within the Laboratory in the preparation, testing, and standardization of antigens and antisera and in evaluating or developing new procedures for their use.

SOURCE OF
PUBLIC HEALTH LABORATORY SERVICE

- SERVED BY LOCAL PUBLIC HEALTH LABORATORIES
- CONTRACT WITH DEPARTMENT FOR ALL HEALTH SERVICES
- CONTRACT WITH DEPARTMENT FOR LABORATORY SERVICE ONLY
- RECEIVE DIRECT LABORATORY SERVICE FROM DEPARTMENT

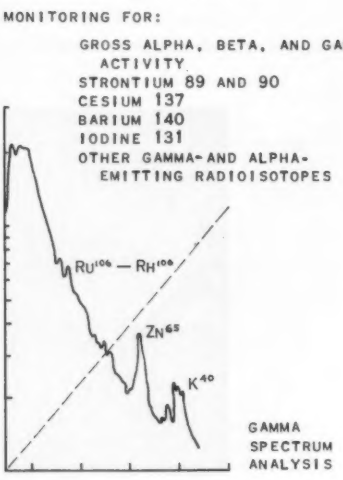
• A bulletin on serologic techniques was prepared to supplement the USPHS manual, *Serologic Tests for Syphilis.* • Ox-cell procedures for infectious mononucleosis were shown to be as acceptable as the usual sheep-cell agglutination test. • Because of the similarity of symptoms, it was shown by a study that specimens from suspected aseptic meningitis cases should be tested for leptospirosis if found negative for viruses. • Preparation for undertaking routine performance of mycological complement fixation tests showed a great need for standardization of antigens. • Studies were begun of the potential use in syphilis serology of synthetic lecithin antigen. • A study was completed showing the efficacy of kaolin for removal of anticomplementary reactions. • Use of the Treponemal Pallidum Immobilization Test continued to be a major reference activity. It is still the test of choice for syphilis diagnostic problems and is the basis for much research in syphilis serology. • Evaluation was completed of the use of the Reiter Protein Complement Fixation Test as an aid to resolving false positives for syphilis. • Studies of specimens from State prisons were started to determine if narcotic addiction is a cause of false positives in the standard lipid test for syphilis. • It was found that narcotic addiction is a cause of anticomplementary results in standard complement fixation tests for syphilis; a rate of 32 percent as compared to 4 percent in nonaddicts. • Newer and simpler media and more rapid methods for enteric culture were tested and adopted. • The Food and Drug Laboratory was assisted in a study of vapor pressure on the growth of microorganisms. • Technical assistance was given to the University of California on several research projects and in setting up a short course in medical mycology. • Assistance was given a local health department in a study of the role of staphylococci in hospital infections during a nonepidemic period. Assistance was given in the diagnosis of two cases of human plague, the first since 1956. • In a cooperative study, the use of filter paper strips for transmitting specimens to be cultured for streptococci was found to be highly superior to the usual methods. • A study was begun to compare filter paper strip methods with fluorescent antibody (FA) techniques for grouping streptococci.



FLUORESCENT TREPONEMES AS SEEN IN THE FLUORESCENT TREPONEMAL ANTIBODY TEST - A NEW TECHNIQUE IN ADVANCED STAGES OF DEVELOPMENT TO AID IN THE DIAGNOSIS OF SYPHILIS

# SANITATION AND RADIATION LABORATORY

## ENVIRONMENTAL RADIATION




As a result of 1959 legislation, the Sanitation Laboratory assumed responsibility for all types of radiological examinations of environmental media, in addition to the established functions of service, research, and training in water, wastewater, and milk examinations. The name was then changed to Sanitation and Radiation Laboratory, and the work was organized into three sections: Sanitary Chemistry, Sanitary Biology, and Radiochemistry.

Radiological equipment and additional staff necessitated a new laboratory annex that increased the floor space about 40 percent. The new activity required methods development and staff training. Most staff members took training courses at the University of California or at the USPHS Taft Sanitary Engineering Center in Ohio. Methods development included use of new equipment and preparation of manuals of operation, adaptation of existing chemical methods to the specific problems involved, and electronic data handling to speed calculations and reporting.

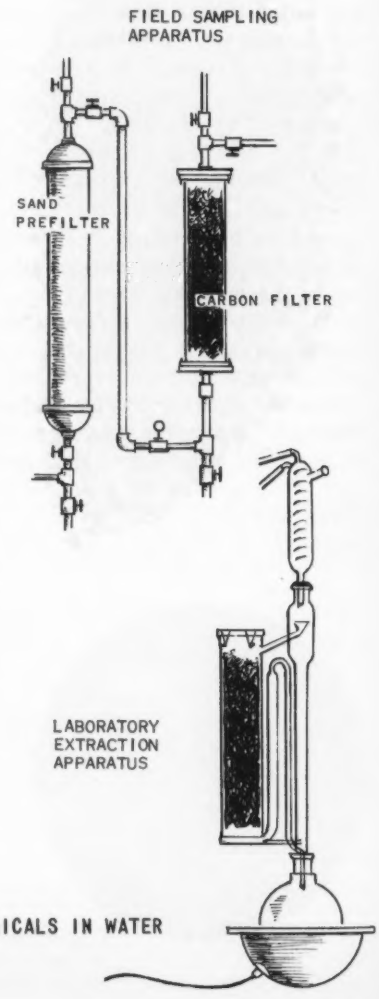
RADIOCHEMISTRY — This section provides laboratory support for Statewide environmental radiation surveillance. A total of about 7,000 samples a year are analyzed. The Laboratory is also involved in atomic reactor site surveys, radioactive waste disposal, and large-scale radioactive tracer studies.

SANITARY BIOLOGY — An outstanding activity of this section during the biennium was the provision of bacteriological and planktonic analyses of Sacramento river water. This was done under contract for the State Department of Water Resources as part of the State Water Plan.

SANITARY CHEMISTRY — For the first time in California, detailed analyses were made by the carbon adsorption method to ascertain amounts and kinds of organic chemicals found in water. This is important in taste and odor problems. Considerable emphasis is now being given to organic water pollutants such as insecticides and weedicides. A study also was made of the impairment by motorboat discharges of water quality of reservoirs used for recreation.

Both the chemistry and biology sections made important procedural and evaluative contributions to the 11th editions of *Standard Methods for the Examination of Water and Wastewater* and of *Standard Methods for the Examination of Milk and Dairy Products.*

Reference samples were distributed to approved water laboratories in California for evaluation of the quality of their performance in testing for seven common constituents. Almost half of the participating laboratories returned unacceptable results for one or more of these. As a result, a program was adopted of closer supervision of these approved laboratories.




CARBON ADSORPTION METHOD FOR ORGANIC CHEMICALS IN WATER

# VIRAL AND RICKETTSIAL DISEASE LABORATORY

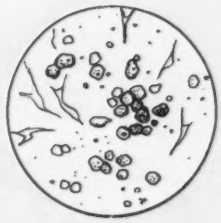
The Viral and Rickettsial Disease Laboratory provides diagnostic assistance to physicians and to local health departments, develops and simplifies laboratory procedures, and works with other bureaus of the Department and with other agencies in the investigation of viral and rickettsial diseases. The Laboratory has also developed a comprehensive program of research, supported largely by funds from non-State agencies, into the etiology, immunology, epidemiology, and prophylaxis of viral and rickettsial diseases. The rapid pace of virologic research since the development of tissue culture techniques has led to the recognition of over 100 distinct virus types, many unknown ten years ago. The Laboratory has developed diagnostic procedures for many of these. The usual diagnostic services were given during the biennium, but two unusual diagnoses were an urban outbreak of Q fever and fatal infections of six pet skunks by *herpes simplex* (a mild infection in man) instead of the suspected rabies.

The fluorescent rabies antibody (FRA) technique is being adapted for use in smaller laboratories for the detection of rabies in field specimens. Results thus far show that it may soon be possible for the FRA technique to supplant the usual, more complicated procedures.

Studies of human viral diseases affecting the central nervous system were major research activities. Specimens from over 200 cases clinically diagnosed as paralytic poliomyelitis were received for laboratory confirmation. Only half of the patients who had received three or more doses of Salk vaccine showed laboratory evidence of the infection, while in the nonimmunized group, poliovirus infection was confirmed in 80 percent. Other viruses, such as Coxsackie and ECHO, were found to be causes of some of this paralytic illness. A system was devised for typing ECHO virus isolates through the use of immune serum pools, permitting use of only 10 cell culture tubes instead of 100. Trial of a combined adenovirus and influenza vaccine with military recruits showed a 50 percent reduction in respiratory disease admissions to the dispensary during an ensuing outbreak of adenovirus infections on the post and a 90 percent reduction in laboratory-proved cases of adenovirus among the vaccinated group. A new program was initiated to trace those changes in the nucleic acid of influenza virus which underlie the periodic mutation of this virus into a new strain. Such information may also point to chemotherapeutic agents able to "jam" the nucleic acid genetic control and prevent reproduction of new virus.

Studies continued of arthropod-borne viruses in California, as a joint project with the Rockefeller Foundation. Focus is on Western equine and St. Louis encephalitis viruses and Colorado tick fever virus, especially the development of avirulent strains for use as live-virus vaccines. By selection techniques, a strain of Western equine virus was obtained which produces an asymptomatic infection in young mice. This infection immunized against subsequent challenge with highly virulent strains and is under investigation as a potential live-virus vaccine.

NORMAL UNINFECTED
MONKEY KIDNEY CELL CULTURE

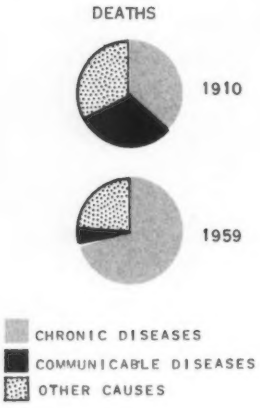


MONKEY KIDNEY CELL CULTURE
INFECTED WITH POLIOVIRUS

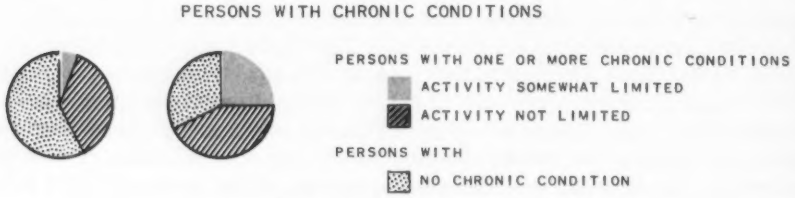
RECOGNITION OF VIRAL AGENTS IN *in vitro* CELL CULTURE

# *Bureau of* CHRONIC DISEASES

## MAGNITUDE OF THE PROBLEM




Chronic diseases now cause almost three-fourths of all deaths and a vast amount of disability. Less than a half-century ago, only about one-third of deaths in our State were from cancer, heart disease, diabetes, and cirrhosis of the liver.




To help curb these "epidemics" of our time, the Bureau of Chronic Diseases carries out a program of health promotion, disease prevention, early detection, health maintenance, medical rehabilitation, and epidemiologic investigation

**PREVENTION** Through recognition and removal of causative agents, chronic conditions can be prevented.

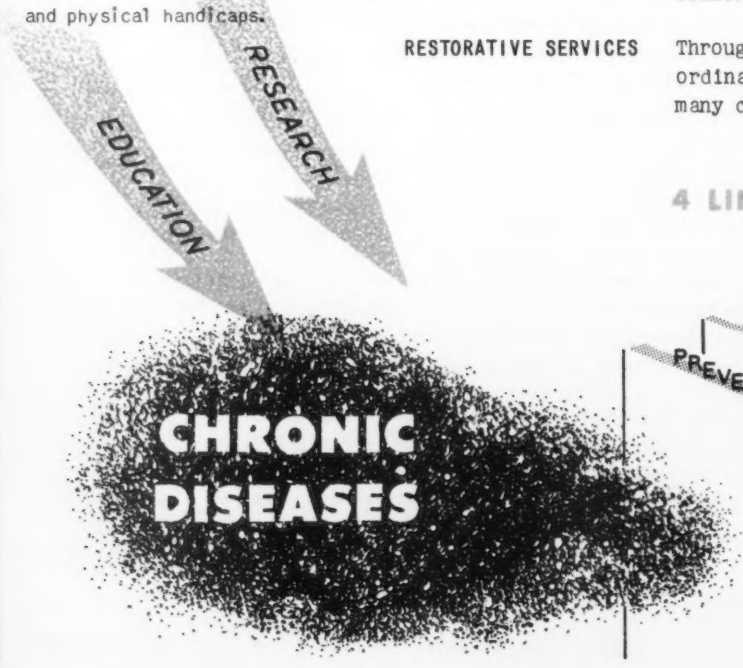
**EARLY DETECTION** Through multiphasic screening and medical examinations, unrecognized diseases can be detected.

**TREATMENT** Through educational efforts, patients can be brought under adequate treatment and post-therapy follow-up.

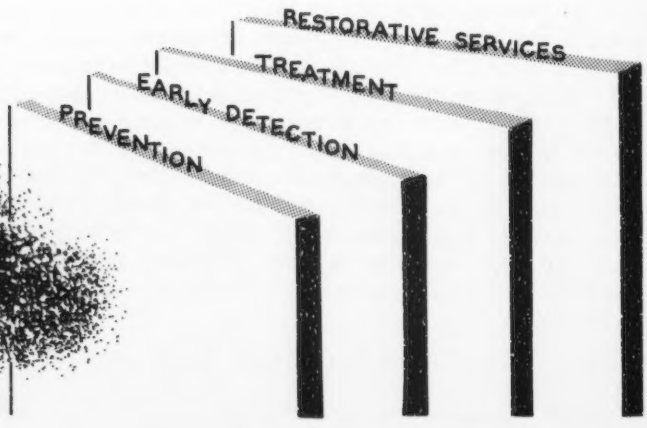
**RESTORATIVE SERVICES** Through application of research findings and coordination of all types of restorative services, many chronic disease patients can regain health.

## 2 LINES OF ATTACK

Each year RESEARCH produces new life-saving knowledge. Application of this knowledge through EDUCATION can help prevent deaths and physical handicaps.




## 4 LINES OF DEFENSE



A major step forward in *health promotion* was taken when the Department led the rest of the United States by setting standards for ambient air quality based on health data. This pioneering effort considered persons most sensitive to the effects of AIR POLLUTION.

Considerable work was aimed at *disease prevention* and *early detection*. Three activities deserve special note:

The Department participated in repeating a multiphasic screening examination first given ILWU longshoremen ten years ago. Nearly 3,500 men were given tests. This second screening is yielding comparative data relating HEART DISEASE to physical and personal characteristics.

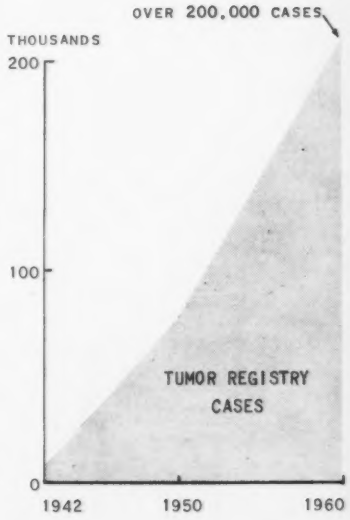
A 1959 law authorized a PREVENTION OF BLINDNESS unit, after a five-year project, under a private grant, had shown the need. Since then, wide-scale activities have been carried on for detecting glaucoma and amblyopia — leading causes of preventable blindness — and for stimulating local health departments to offer vision screening routinely.

Special emphasis was placed on stimulating routine cervical cytology examinations for women under public medical care, and several counties began this service. General use of this test could prevent most deaths from this common CANCER site.


The Bureau's efforts toward *health maintenance* can be illustrated by:

Evaluating cancer diagnosis and treatment — The 1959 Legislature gave the Department responsibility for protecting the public from unproved methods for diagnosing and treating cancer. This, the first such law in the Nation, requires the Department to test samples of materials or devices. The law also set up a Cancer Advisory Council to recommend needed investigation and possible ban or prosecution.

Tumor Registry service — Physicians and hospitals continued to be supplied with data about cancer treatment and survival from the Tumor Registry, the largest in the Nation. Work was begun on an extensive monograph on registry experience under a grant given in recognition of its value for cancer epidemiology.




Demonstration projects — The Bureau encouraged local health agencies to demonstrate and evaluate new services for controlling chronic disease. Under the Department's Special Projects Program, ten such community health service studies were either continued or started.

An important activity in *medical rehabilitation* was the collaboration with the State Department of Social Welfare in a program to extend and improve rehabilitation services for OAS recipients. The Department's responsibility includes development and setting of standards and certification of facilities meeting these standards.

Impetus was given to chronic disease *epidemiology* through a grant for the development of a HUMAN POPULATION LABORATORY. The population of Alameda-Contra Costa Counties furnishes this unique laboratory for intensive study of the relationships between major chronic diseases and various living patterns and personal characteristics.

Since the earliest HEALTH SURVEY conducted by the Bureau in 1950, the Department has continued leadership in developing and evaluating methods of morbidity measurement. The current survey is collecting trend information on the reactions of Californians to air pollution.

# *Bureau of* COMMUNICABLE DISEASES

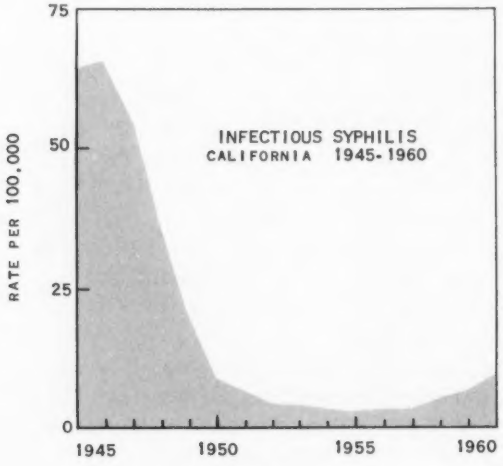
This Bureau takes such action as is indicated and reasonable to minimize death and disability from infectious disease. Examples of some of these activities during the biennium are given below.

## SURVEILLANCE

The Bureau's respiratory disease surveillance program, conducted in cooperation with local health departments, detected the onset of an influenza epidemic in the winter of 1959, enabling early identification of the virus type. The surveillance program uses a variety of indices including school and industry absenteeism, hospital bed occupancy, and deaths attributed to influenza and pneumonia.

## CONTROL

The venereal disease control effort was stepped up by adding to the State staff and assigning a number of public health trainees to local health departments. Inservice training in venereal disease contact interviewing and case-finding techniques was begun for local staff. Increasingly effective cooperation of physicians in all phases of venereal disease control is being stimulated by demonstration projects.




## EPIDEMIOLOGIC STUDIES

An epidemiologic study of all hospital-associated infections in seven California hospitals in a six-month period in 1960 shows that the part of the problem first recognized, nursery and obstetrical infections, has in large part been brought under control.

Control of communicable disease requires constant surveillance. On a global basis, no infectious disease has been eliminated.

Illusions of conquest can lead to relaxation of known methods of control or too much reliance on a single method. Striking examples of this occurred during this biennium with an upsurge of VENEREAL DISEASE, especially infectious syphilis, and emergence of the problem of HOSPITAL-ASSOCIATED INFECTIONS from antibiotic-resistant staphylococci.

In both instances, too much reliance had been placed on antibiotics, the newest method of control, and older proved methods for prevention and control had been neglected. The Bureau moved to reactivate all methods of venereal disease control, and coordinated Departmental activities for renewed emphasis on aseptic techniques for control of hospital-associated infections.

While no communicable disease has been entirely eradicated, medical science has provided effective means for reducing many of these diseases to minor public health significance. Medical science has done this for TUBERCULOSIS and PARALYTIC POLIOMYELITIS. The Department has joined in the nationwide intensification of effort toward eradication of these diseases.

It is ironic that success may uncover similar diseases whose presence has been masked. Even now, there is widespread recognition that other mycobacteria cause tuberculosis-like diseases and that enteroviruses other than polio viruses cause paralytic illness clinically classified as poliomyelitis. This latter discovery has given new emphasis to the ongoing vaccine evaluation.

In spite of vigilant surveillance, certain diseases evade control because scientific research has not cleared up baffling characteristics. Two such diseases were control problems during the biennium: INFLUENZA and INFECTIOUS HEPATITIS.

In 1959, severe influenza was widespread and deaths associated with influenza increased in the older age groups. For unknown reasons, not one case of influenza was laboratory-confirmed in California during the next year. However, a severe respiratory disease of undetermined etiology broke out in 1961 among infants and children.

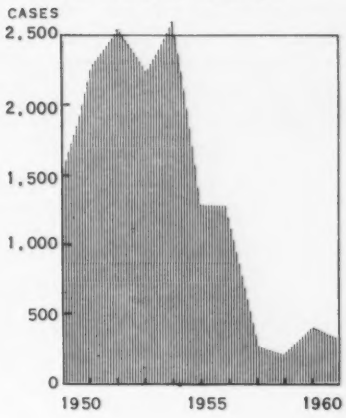
Infectious hepatitis presented baffling aspects when the constant case rate of the previous eight years suddenly doubled. Epidemiologic investigation of seven outbreaks proved none to be food-borne.

Three animal diseases transmissible to man were of interest. A new control method was introduced for one of these, PSITTACOSIS. An antibiotic-treated seed came on the market, which, when fed under adequate supervision, can rid parakeets of this infection.

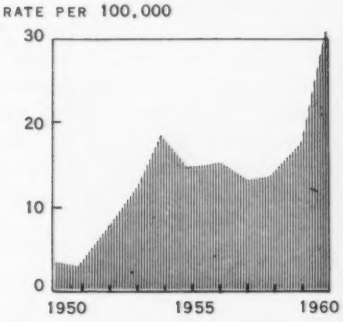
Q FEVER, a disease of sheep, goats, and cattle, can cause atypical pneumonia in humans, which fortunately responds well to antibiotic treatment. When an urban outbreak occurred in 1959, the Bureau traced its source to a rendering plant processing sheep offal.

RABIES has greatly increased in California wildlife, but the incidence in dogs — the main threat to humans — has decreased with the growing acceptance of compulsory dog vaccination. However, an acute epidemic of canine rabies broke out in 1959 in Imperial County and across the border in Mexico. Almost 1,100 persons required antirabies treatment and one human death occurred in Imperial County.

PARALYTIC POLIOMYELITIS CASES
CALIFORNIA, 1950-1960



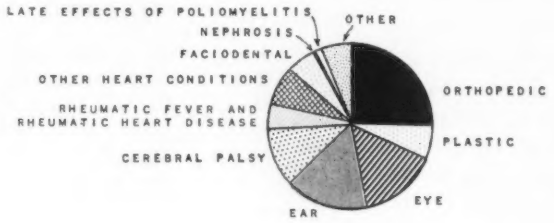

INFECTIOUS HEPATITIS*
CALIFORNIA, 1950-1960



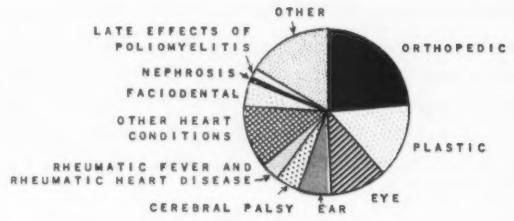

*1950-1954 INCLUDES BOTH INFECTIOUS AND SERUM HEPATITIS

# *Bureau of* CRIPPLED CHILDREN SERVICES

The State's thirty-year old program for physically handicapped children provides a wide range of services to supplement those the parents are able to pay for. These include expert diagnosis, medical and surgical treatment, hospital care, physical and occupational therapy, and necessary appliances. Funds for operating the program come from county appropriations, the Department's budget, the U.S. Children's Bureau, and repayments by parents. In early years of the program most of the cases were orthopedic; in recent years, the scope has been broadened to include other conditions which may be even more crippling.

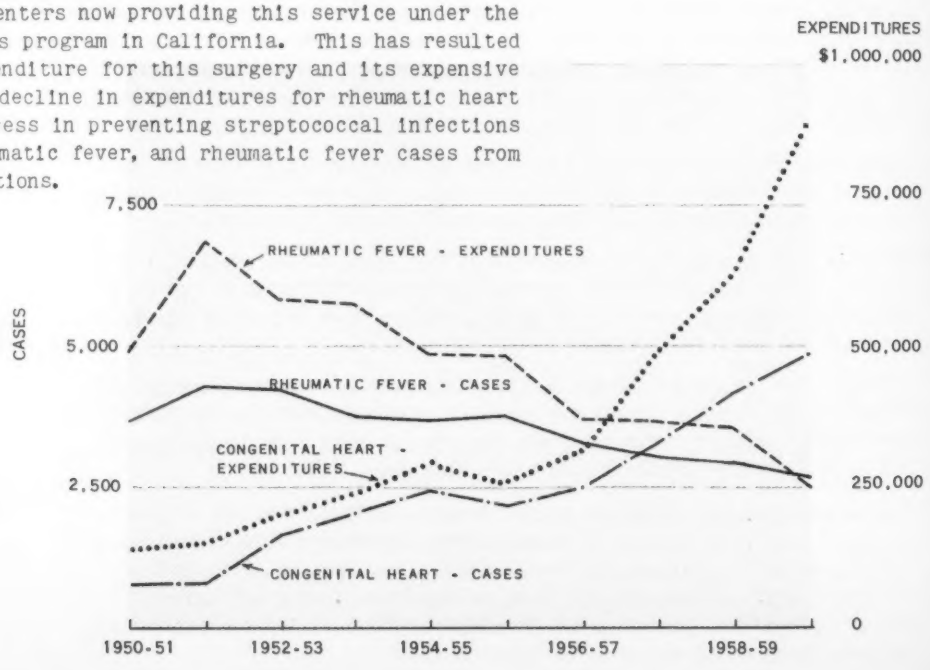



CASES




EXPENDITURES

The changes in the program have been linked with advances in medical science which have made preventable some conditions, such as rheumatic heart disease, which have made possible medical and surgical treatment for other conditions, such as congenital heart defects, and which have yielded treatment for certain conditions, such as nephrosis. The congenital heart disease phase of the program has been influenced more than any other by advances in types and techniques of surgery. With the advances in open heart surgery, many more cardiac centers have been approved, with 16 centers now providing this service under the Crippled Children Services program in California. This has resulted in greatly increased expenditure for this surgery and its expensive auxiliary services. The decline in expenditures for rheumatic heart disease reflects the success in preventing streptococcal infections from developing into rheumatic fever, and rheumatic fever cases from developing heart complications.



The objective of California's program for severely handicapped children is to help all of them to attain their maximum potential through correction or alleviation of their handicapping conditions. Categories of handicapping conditions eligible for medical care with public funds are set by the California Legislature. The funds are used to provide treatment for children with these conditions if their families cannot pay for the necessary services or can pay for only part of the care. However, each county health or welfare department endeavors to see that all handicapped children in the county come under adequate medical care, whether or not they are eligible for the tax-supported program. The Bureau of Crippled Children Services carries the Department's responsibility for administering thd Crippled Children Services program at the State level. A central concern of the Department has been to influence the quality of remedial services for all handicapped children in the State by setting high standards for personnel and facilities providing care under each county's Crippled Children Services program.

USE OF ELECTROENCEPHALOGRAPH IN THE EPILEPSY PROJECT

One category of handicapping conditions eligible for care with public funds was added by the Legislature during the biennium — nephrosis. In January 1960, the Bureau began a four-year study, authorized by the Legislature, to determine the feasibility of including children with epilepsy in the program. A report on the first year's progress was made to the 1961 Legislature.

Locally, either a county health department or a county welfare department administers the program. The Department sets standards for care; determines conditions medically eligible; provides a central statistical service and medical, nursing, health education, and administrative consultation. In cooperation with other Departmental units, consultation is provided on other aspects of the program, such as social work, nutrition, and orthodontia. Every county has responsibility for case-finding, determining financial eligibility and the amount to be repaid by families, maintenance of case records, and after-care services.

ADMINISTRATIVE STATUS OF COUNTIES
CALIFORNIA, FISCAL YEAR 1959-1960


TOTAL NUMBER OF INDEPENDENT COUNTIES — 19

TOTAL POPULATION OF INDEPENDENT COUNTIES — 12,095,300 (79% OF STATE TOTAL)

Under the arrangement called the "independent" program, the county takes the additional responsibility for planning care, authorizing services, paying bills, and carrying out other related activities. Under the other arrangement, the Department provides these services directly in counties, usually less populous. The Bureau makes special effort to stimulate decentralization because of its advantages of faster service, more intimate understanding of each child's needs, better coordination of care, maximum use of local medical resources, and more effective program interpretation.

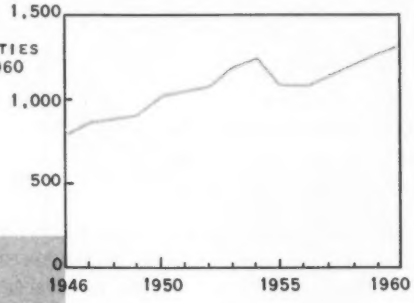
Since interpretation of all phases of the program is a continuous need, educational and informational activities are an integral part of the Crippled Children Services. A manual of procedures was developed by the Bureau for interpretation of the programs to local health and welfare departments.

# Bureau of HOSPITALS

The Bureau's LICENSING program establishes minimum standards for patient care and safety in licensed institutions.

The Bureau's PLANNING AND CONSTRUCTION program provides leadership for effective expansion of needed medical care facilities and Federal-State construction funds to assist local communities.

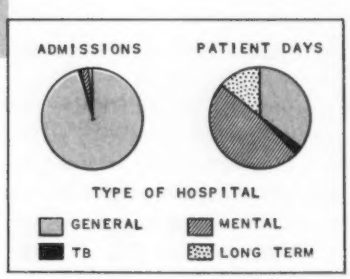
NUMBER OF FACILITIES LICENSED, 1946-1960




TYPE OF INSTITUTIONS LICENSED
1960

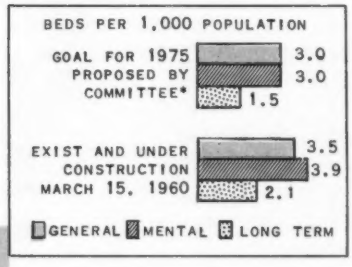
| | |
|---|---|
| TOTAL | 1,346 |
| HOSPITALS | 529 |
| NURSING AND CONVALESCENT HOMES | 710 |
| ESTABLISHMENTS FOR HANDICAPPED PERSONS | 39 |
| CLINICS | 68 |

## LICENSING




Hospital service is indispensible to modern medical care. One Californian in eight is admitted to a hospital annually. On a population basis, the average stay is three days per person, one of these days in a general hospital. Hospitalization costs Californians three-quarters of a billion dollars a year.

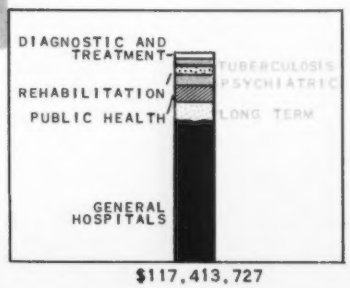
HOSPITAL BEDS BY TYPE OF HOSPITAL




Attaining this proposed reduction in hospital beds can only come about through planning ——
To locate hospitals properly
To develop complementary health services
To keep abreast of advances in medical science and medical practice
To adjust to changing socioeconomic conditions

## PLANNING AND CONSTRUCTION

STATE-FEDERAL FUNDS BY TYPE OF FACILITY
1947-1961




Half of all hospital facilities in California have been built since World War II. The cost has been more than a billion dollars. Federal and State funds assisted construction projects costing nearly a quarter of a billion dollars.

The Bureau of Hospitals administers two major programs with the help of a citizens advisory group appointed by the Governor for each program. The Bureau's operation revolves around the public understanding and acceptance gained through these two advisory groups.

The *Hospital Advisory Board* conducts public hearings and makes recommendations on standards for the HOSPITAL LICENSING PROGRAM, under which the Department licenses all hospitals and related institutions. The hearings are preceded by thorough consideration of proposed licensing standards with professional groups involved.

Early in the licensing program, emphasis was on hospital safety and sanitation; recently, emphasis has shifted to standards for patient care. Government has become responsible through institutional licensing programs for setting standards for services as well as facilities. More and more, the public is looking to government for assurance that minimum standards for patient care are being met by institutions licensed under this program. The complex problem of standards for medical care is illustrated by the current problem of staphylococcal infections in hospitals, where the Department has worked closely with hospitals and physicians to establish standards for guidance of hospitals.

The *Advisory Hospital Council* acts as an integral part of the HOSPITAL PLANNING AND CONSTRUCTION PROGRAM. Before the public hearings, extensive committee work is done with responsible groups to develop concepts of hospital planning on a statewide basis. Grants of Federal and State funds for construction of community hospitals and health facilities are based on these planning concepts.

In 1960, the Bureau conducted a special survey in Los Angeles and San Diego. The extensive information gained has made possible significant improvements in planning for metropolitan communities. The survey showed the need for a systematic collection of precise information on hospital services. As a result, the Department has secured approval for Federal support of a three-year research project to develop a practical method for such collection on a statewide basis.

Since services of hospitals and related institutions now are such a vital component of medical care, planning for their effective development presents particular problems in California where the population increases about 50 percent each decade. Hospitals here have expanded at about the same rate as the population, but many are improperly located and inappropriate in size, with resultant duplication and overlapping of services. Medical advances have created growing reliance on the medical care given in hospitals and related facilities. The concept that hospitals and related institutions have a broad social responsibility for community service is a natural outgrowth of this development.*

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*See *Health Care for California*, Report of the Governor's Committee on Medical Care and Health, Sacramento, December 1960, pp. 37-46.

**IMPROVED QUALITY OF PATIENT CARE**

*includes*

***PREVENTION***
***DIAGNOSIS***
***TREATMENT***
***REHABILITATION***

*requires*

INSTITUTIONS OF EFFECTIVE SIZE AND FUNCTION OFFERING HIGH QUALITY SERVICES, AFFILIATED WITH SPECIALIZED HEALTH SERVICES TO PROVIDE CONTINUITY OF TOTAL PATIENT CARE.

**HIGHER STANDARDS**

- STATE LICENSING PROGRAMS
- VOLUNTARY ACCREDITATION PROGRAMS
- NATIONAL, REGIONAL, AND LOCAL MEDICAL AND HOSPITAL ORGANIZATIONS

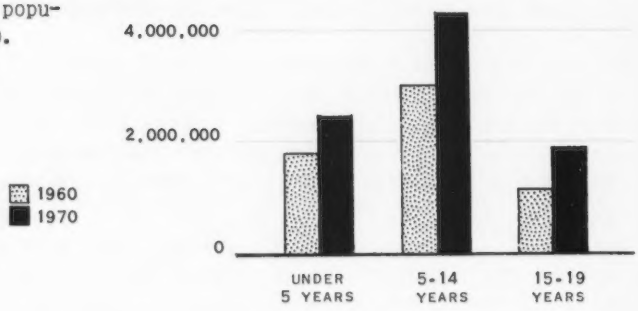
ORGANIZED TRAINING PROGRAMS

**BETTER PLANNING**

- COORDINATED STATEWIDE PLANNING FOR EFFECTIVE HOSPITAL AND RELATED HEALTH SERVICES BASED ON COMMUNITY NEEDS
- CALIFORNIA HOSPITAL SURVEY AND CONSTRUCTION PROGRAM
- REGIONAL HOSPITAL PLANNING ORGANIZATIONS

# Bureau of MATERNAL AND CHILD HEALTH

In the Sixties, California's greatest increase in population is expected to be in the age group under 20.




Certain segments of the State's families present special maternal and child health problems

*Low socioeconomic families*

*Welfare recipients*

*Seasonal agricultural worker families*

Some of the problems these families present are:

*Premature births*

*High perinatal mortality* *Frequent accidents*

*Disordered behavior* *Mental retardation*

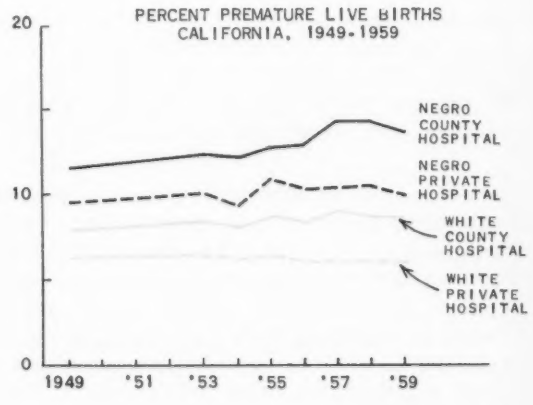
*Congenital abnormalities* *Dental caries*

Maternal deaths have decreased strikingly in the last two decades, but a current study with the California Medical Association shows that there are still too many preventable maternal deaths.

A 1949 study of prematurity in California was repeated in 1959; no appreciable reduction had taken place in ten years.

The Bureau completed a series of studies, financed by the U.S. Children's Bureau, on health supervision of young children in California and published a monograph on the Child Health Survey.

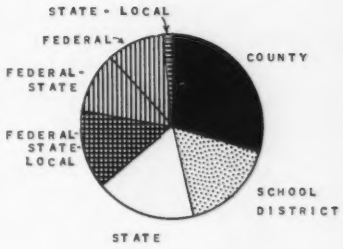
A special project on the epidemiology of reproductive loss, supported by the National Institutes of Health, developed a telephone interviewing procedure which will be applicable to later studies of the relationship of certain events in early pregnancy to the outcome of pregnancy.




The first stage in a study of the epidemiology of childhood accidents was completed with financial support from the National Institutes of Health and the cooperation of the Kaiser Foundation Health Plan.

The Bureau of Maternal and Child Health has specific responsibility for preventing illness and promoting health among California's mothers during the critical reproductive period and among their children during the equally critical period of growth and development to adulthood. Private physicians and local agencies provide the direct health services.

*Public medical care for children* — The Bureau initiated a fact-finding study in 1959 of public medical care for California children. Local health departments, the State Department of Social Welfare, the Academy of Pediatrics, and the Academy of General Practice collaborated in the study. The results of this and other recent Bureau studies showed definite need for coordination of health services and pointed up the need for better utilization of existing resources and for continuity of medical care.

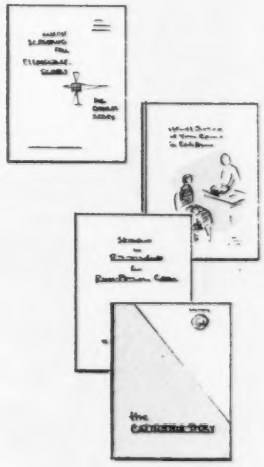



PRINCIPAL TAX-SUPPORTED MEDICAL CARE FOR CHILDREN
CALIFORNIA, 1958

*Mental retardation* — The Bureau took leadership in applying new scientific knowledge about prevention of mental retardation from phenylketonuria (PKU), a congenital metabolic defect. California was one of the first states to introduce routine PKU testing of young infants in child health conferences and to make available the special PKU diets and medical follow-up necessary for families who cannot afford them. Special field diagnostic services for mentally retarded children have been made available in Southern California.

*Seasonal agricultural workers* — At the Governor's request, the Bureau prepared a report on the health needs of families of seasonal agricultural workers. As a result, the 1961 Legislature authorized funds for additional Bureau staff and for allotments to local agencies wanting to extend health services to this small but critically disadvantaged group whose health problems remain acute after a decade of relative inaction.

*Maternal and perinatal health* — In 1960, under Bureau leadership, standards for public prenatal care were developed, established for California, and published. This has attracted nationwide attention. The Bureau also assisted in a successful initiation of the use of nurse-obstetric assistants in hospitals in sparsely populated rural areas. A Statewide study of maternal deaths is continuing with the California Medical Association. In 1959, California became the first state to develop standards for commercially prepared infant formulas for hospital use. These are part of the effort to reduce the death rate of infants in the first week after birth. This rate has not been significantly lowered in the last decade in California or in the Nation. Some of the Bureau's special studies in this area during the biennium were of all 1959 California births and fetal and neonatal deaths, of the completeness and accuracy of medical information on birth certificates, and of factors associated with prematurity.



VISION SCREENING FOR ELEMENTARY SCHOOLS
THE ORINDA STORY

HEALTH SUPERVISION OF YOUNG CHILDREN IN CALIFORNIA

STANDARDS AND RECOMMENDATIONS FOR PUBLIC PRENATAL CARE

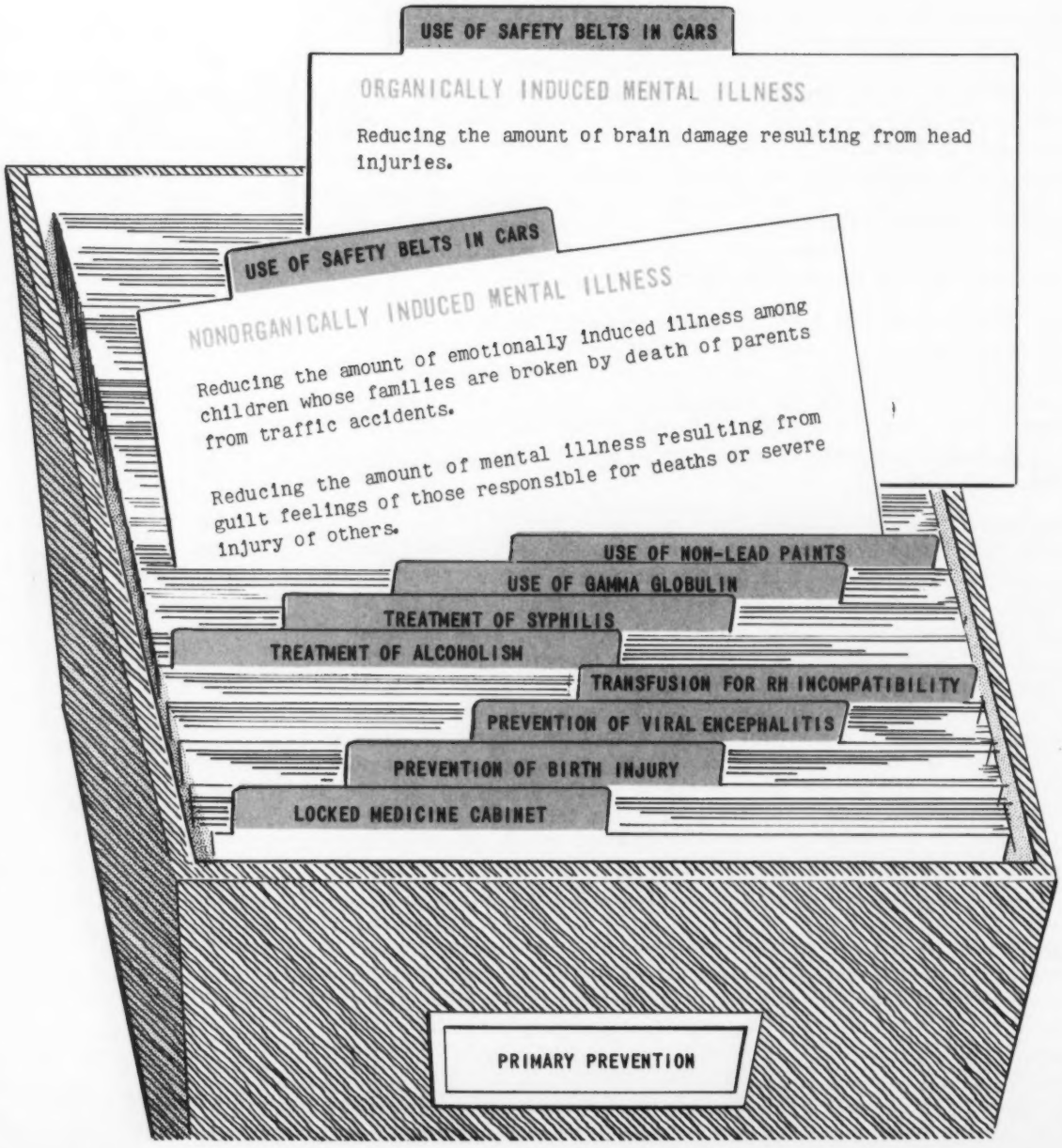
THE CALIFORNIA STORY

*Project support* — Besides those already mentioned, some of the current maternal and child health projects receiving financial and technical support from the Department include investigation into vision screening tests, neuromuscular maturation, unwed mothers, academic underachievement of bright school children, and prevention of home accidents.

# MENTAL HEALTH SERVICE

The main concern of the Mental Health Service is epidemiologic research and training with the focus on primary prevention of mental illness.

An example of a means of PRIMARY PREVENTION readily at hand is the use of safety belts in cars



There are three major problems in the field of mental illness: prevention, effective treatment, and humane care of the mentally ill patient and ex-patient. During the biennium, the most promising development was, and will continue to be, in getting more humane care on the local level. Local assumption of responsibility for care of the mentally ill has been increasing by virtue of the growth of psychiatric units in general hospitals, extension of local mental health programs under the Short-Doyle Act, local health department programs for follow-up care of patients and families, and broadening of health insurance to give at least limited coverage for mental illness.

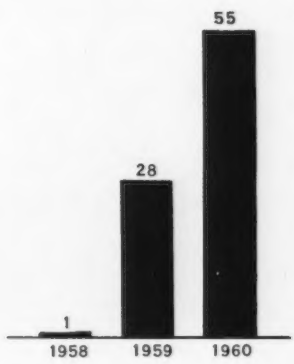
Local assumption of responsibility for humane care of the mentally ill could be aided to a greater extent by funds administered by the Department's Hospital Planning and Construction Program if a standard were set requiring general hospitals to have at least 10 percent of their beds for patients with primary diagnoses of mental illness.

Humane care *is* humane care, no matter what the diagnosis or cause of the illness. We know enough now about care of mental illness to do better than we do, but with respect to treatment and prevention, we need to know much more about diagnosis and cause. A first step toward planning treatment and prevention entails the setting up of a socially agreed-upon diagnosis of mental illness. Such a diagnostic system is needed as a baseline for measuring change. The Service began work on setting up this type of socially determined system for diagnosing mental illness.

Progress was made in the area of primary prevention of *organically* induced mental illness through emphasizing what can be done by public health efforts to reduce brain damage and mental retardation. Examples are the work done in nutrition related to phenylketonuria and galactosemia. These are congenital metabolic defects which cause brain damage in infancy. Recent medical research has developed diets preventing this damage.

Service activities for primary prevention of *nonorganically* induced mental illness are emphasizing collaboration with local health departments in epidemiologic research projects. An example is the problem of suicide—still one of the ten leading causes of death.

SUICIDES FROM PLASTIC BAGS




Other activities during the biennium included:

Consultation with local health departments on mental health programs and on preparation of their research grant applications.

Collaboration with a local health department in setting up an attitude awareness project in a child health conference.

Inservice educational conferences with local health department staff on mental health consultation service and programming.

Collaboration with Department staff on a research project to study and evaluate consultation in public health.

Collaboration with the Department of Justice in revising the physicians' guide for testing of probationers and parolees for use of narcotics.

Collaboration with the Department of Mental Hygiene and local health departments on setting up public health nurse follow-up programs for mentally ill patients and their families.

# *Bureau of* PUBLIC HEALTH NUTRITION

The Bureau of Public Health Nutrition takes leadership in assessing California's public health nutrition problems, in stimulating the development of nutrition services and facilities, and the application of sound nutrition principles to all health programs in the State.

## TARGET GROUPS IN PUBLIC HEALTH NUTRITION

**BY GROWTH AND DEVELOPMENT**

- Expectant and nursing mothers
- Infants and children
- Adolescents

**BY DISEASE PROCESS**

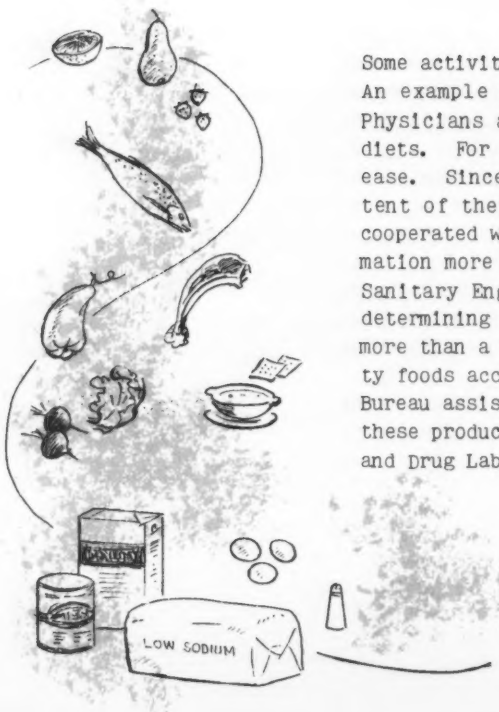
- The chronically ill
- The physically disabled
- Infants with metabolic defects
- Persons with dental disease

**BY ECONOMIC PRESSURE**

- Families with limited income
- Seasonal worker families
- Persons on pensions

**OTHERS**

- The obese
- The underweight
- The aged

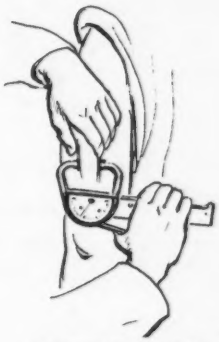



Some activities with these target groups depend on cooperative effort. An example is the work on sodium content of waters and of foods. Physicians are placing increasing numbers of patients on restricted diets. For example, sodium is often restricted in cardiovascular disease. Since individuals cannot themselves ascertain the sodium content of their drinking water or of processed foods, the Department cooperated with the California Heart Association in making this information more readily available. The Bureau worked with the Bureau of Sanitary Engineering and the Sanitation and Radiation Laboratory in determining the sodium content of each California water system serving more than a thousand households. To insure that the labels on specialty foods accurately record the precise amount of sodium contained, the Bureau assisted in developing a program for continuous surveillance of these products by the Bureau of Food and Drug Inspections and the Food and Drug Laboratory.

Food faddism and misinformation complicate the food habits of millions of Americans; children rush off to school without nourishing breakfasts; many expectant mothers lack nutrition guidance; old people living alone or in nursing homes eat too little of the foods they need most; and about one-fifth of our middle-aged eat to obesity — this is the dark side of the national food habit pattern, and California is no exception. To all these problem areas another has been added by recent medical research — mental retardation from metabolic defects.

The Bureau of Public Health Nutrition works in all these areas, mainly by consultative and educational services to Department staff and to staff of local health departments, hospitals, nursing homes, and school systems. Under contract with the State Department of Education, direct nutrition supervision is given to the six special State residential schools for blind, deaf, and cerebral palsied children.


*Food habits of school-age children* — Bureau dietary surveys have shown that the food habits of many California school children give them inadequate amounts of ascorbic acid, vitamin A, and calcium, and that too many adolescent girls have unwise eating habits. In view of these problems and the appallingly high incidence of dental caries in the school population, the Bureau focused efforts on promoting an educational program in the schools and in the communities.



MEASURING SKINFOLD TO ASSESS BODY FAT

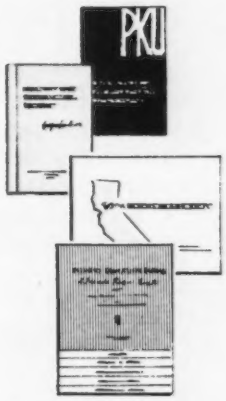
*Diet in prenatal care* — Department surveys of prenatal care have shown a lack of dietary counseling service to expectant mothers. In meeting this problem, staff prepared a nutrition section for the Department's 1960 publication, "Standards and Recommendations for Public Prenatal Care", and revised "Nutrition During Pregnancy and Lactation", as a supplement.

*Metabolic disorder control* — Phenylketonuria (PKU) and galactosemia are hereditary metabolic defects in which the body is unable to utilize certain foodstuffs. Unless special synthetic foods are given early in infancy, severe mental retardation results. There has been little instructional material for parents or professional people on the dietary treatment of either condition. The Bureau completed four publications on PKU and started work on similar ones for galactosemia.

*Obesity* — The most important nutritional problem in middle-aged adults is obesity. It has been linked to decreased life expectancy, heart disease, hypertension, and diabetes. The Bureau began preparation of a research project to develop methods for assessing body fat, suitable for large-scale studies.

*Nutrition of older people* — In the older age groups, undernutrition is a health problem. Too often food intake is limited both in quantity and quality. Staff assisted in designing a demonstration of health education methods to improve the dietary practices of senior citizens. Assistance was also given in a study of the effectiveness of various methods for educating senior citizens in nutrition.

*Nursing home food service* — A high quality of dietary care is obviously essential in nursing homes, but it is too often overlooked. In 1959, staff assisted the Bureau of Hospitals in drawing up the new licensing regulations setting standards for food service in nursing homes, and in interpreting them to nursing home operators in a series of workshops.



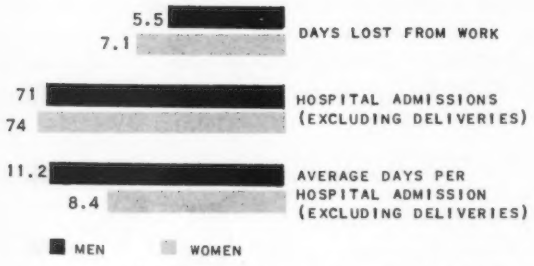

PKU, A DIET GUIDE FOR PARENTS OF CHILDREN WITH PHENYLKETONURIA

NUTRITION DURING PREGNANCY AND LACTATION

SODIUM VALUES OF DRINKING WATER

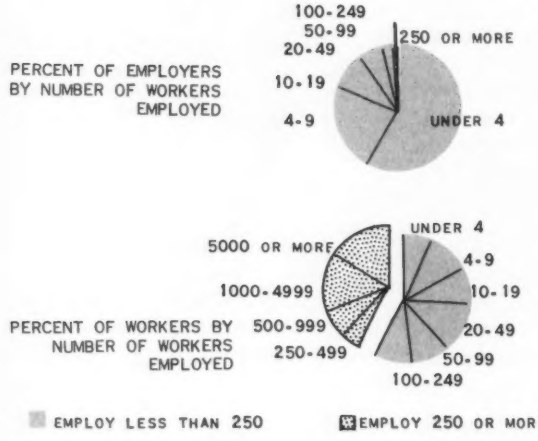
NUTRITION EDUCATION MATERIALS

# *Bureau of* OCCUPATIONAL HEALTH




(California Health Survey, 1954-1955.)

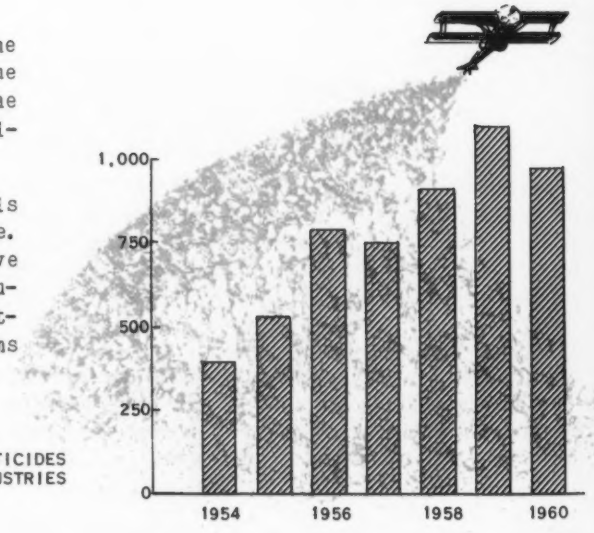
Over six million persons make up California's labor force — one-third are women. By 1970, the labor force is expected to reach nine million, with an even greater proportion of women workers. The average woman worker in California loses seven days from work a year because of illness; the average man worker loses five and a half days. Hospital admissions are about the same for men and women workers (if deliveries are excluded), but the men stay in the hospital an average of three days longer.




Almost half of California's labor force works for less than one percent of the employers. If all of these large employers had active occupational health programs, both employers and employees would benefit — the employees from early detection of illness and recognition of potential health hazards, the employer from the economic benefits of less absenteeism and more productive workers.

During the biennium, detailed reports were made to the Governor on the occupational health implications of the use of highly toxic agricultural chemicals and on the potential contribution of public health to traffic accident prevention.

Illness and death from organic phosphate pesticides is the greatest occupational health problem in agriculture. Reports of occupational disease from this use have tripled since 1954. Results of studies made by the Bureau were widely publicized, and local health departments were assisted in arranging educational programs for employers, workers, and physicians.




REPORTS OF OCCUPATIONAL DISEASE ATTRIBUTED TO PESTICIDES AND OTHER AGRICULTURAL CHEMICALS, ALL INDUSTRIES

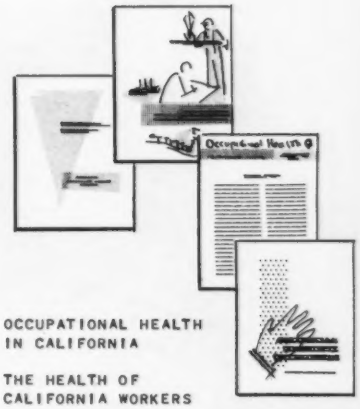
Contributions of public health to traffic accident prevention will be made in epidemiologic research into underlying causes of traffic accidents, setting medical standards for drivers, and coordination and analysis of accident data collected by various State agencies.

The Bureau of Occupational Health is concerned with the health of California's work force of six million. California Health Survey data were analyzed for workers and a report published in 1960. These data gave a perspective for the first time for development of preventive health services for workers and for focusing on the more substantial health problems. The spectacular new chemical and physical hazards being added to the work environment each day have drawn attention to these threats to the workers' health, while the relatively more important need for general inplant preventive medical services tends to be neglected.

Development of occupational health services at the community level has been more encouraging during the biennium than at any previous time. As more local health departments develop health services for the working population in their own communities, there will be less need for direct assistance from the Bureau. Staff time can then be used much more productively for broad research, for coordination of local programs, for occupational health information, and for stronger assumption of leadership in this increasingly important field.

The Bureau helped to develop local occupational health programs through training personnel, study of local problems in industrial medicine and hygiene, collaboration on special studies, and technical consultation by the Bureau's medical, nursing, engineering, sanitation, and statistical personnel.

The Bureau conducted a number of industry-wide studies. • Health hazards in tunnel drilling were studied in more than a dozen projects. In many instances, the noise was found to be about that of jet airplane engines — a level known to cause hearing loss. The findings were of particular importance, since more powerful and even noisier equipment is being developed and will be used in extensive drilling operations for the California Water Plan. Study results were given to the industry, and recommendations were made for ear protection and reduction of noise at its source. • The Bureau carried out a special investigation of "glue dermatitis" in the plywood industry after reports of this occupational disease had greatly increased. The study showed that the term is misleading. Weakening of the skin through improper use of protective rubber gloves had made these workers' hands subject to infection with fungi and bacteria. Since preventive means were developed and a bulletin describing them was sent to all the reporting physicians, case reports have almost ceased.



OCCUPATIONAL HEALTH IN CALIFORNIA

THE HEALTH OF CALIFORNIA WORKERS

OCCUPATIONAL HEALTH TECHNICAL INFORMATION SERVICE

OCCUPATIONAL DERMATITIS IN CALIFORNIA

Studies and surveillance of worker exposure to occupational ionizing radiation showed workers to be well protected from this hazard. The permit system of the Atomic Energy Commission has probably prevented the use of radioisotopes by the incompetent. This approach might well be copied in dealing with other highly hazardous materials in the working environment.

Efforts were stepped up in the Bureau's activity of many years in promoting an occupational health and safety program for State employees. Since the State is the second largest employer in California, lack of such services stands out as a major deficiency. Collection of evaluative data was begun during the biennium to provide departments of State government with information on the value of employee health services and the costs of failing to maintain the health of workers. These data should also be of value in convincing private industry.

# *DIVISION OF* **RESEARCH**

Among the generally recognized fields for application of public health research methods, complementing medical research and public health laboratory research, are:

COMMUNICABLE DISEASE

CHRONIC DISEASE

PREMATURE BIRTH AND FETAL WASTAGE

HOME, HIGHWAY, AND INDUSTRIAL ACCIDENTS

DENTAL DISEASE

ALCOHOLISM

AIR AND WATER POLLUTION

RADIATION

OCCUPATIONAL HAZARDS

PUBLIC HEALTH ADMINISTRATION

Less well-known fields of public health research are:

SOCIAL AND ENVIRONMENTAL FACTORS IN HEALTH AND DISEASE

CULTURAL ATTITUDES TOWARD ILLNESS AND MEDICAL CARE

METHODS IN HEALTH EDUCATION

EFFECTIVENESS OF PUBLIC HEALTH SERVICES

The Division of Research gave, or provided for, expert technical advice to Departmental staff and local health personnel on the design of proposed research projects and consultation on epidemiologic methods, biostatistics, and mathematical statistics. If research activities, both Departmental and local, are to be properly integrated, it is obvious that policies, plans, and procedures must be carefully worked out. A substantial beginning was made in the development of a guide for preparing and processing proposals for local research project contracts; in the establishment of a framework for consultation; and in developing procedures for review and processing of Departmental and local applications for research grants. Assistance was given in 41 Departmental and 2 local agency applications for Federal and foundation research grants, and 41 local new or continuing applications for State support.

The Division also gave consultation and assistance to program statisticians and program directors in the Department on record-keeping procedures and statistical techniques to insure the usefulness of their records and statistics not only in research but also in planning, operating, and evaluating their programs.

RESEARCH, PLANNING AND CONSULTATION

HEALTH SURVEILLANCE

STATISTICAL CONSULTATION TO PROGRAMS

EPIDEMIOLOGY TRAINING

ADMINISTRATIVE RESEARCH

ADMINISTRATIVE SERVICES FOR RESEARCH SUPPORT

SERVICES OF STATISTICAL PERSONNEL

The Division of Research was established on July 1, 1959, as a direct result of a general management survey of the Department made by the State Department of Finance at the request of the Director. The survey staff recommended organizational recognition of research as a major Departmental function. The Department has conducted public health research for years under the provisions of the Health and Safety Code which states that the Department "....shall cause special investigation into the sources of morbidity and mortality and the effects of localities, employment, conditions and circumstances on the public health....", but the establishment of a Division of Research fills the need for a planned and integrated approach to Departmental research activities.

*Organization and staffing* — The new Division is essentially a service unit to the Department and to local health departments. It has been organized into seven functional units. However, functional units cannot function without personnel, and selection of suitable persons for the established positions was a slow process.

*Review of Department's statistical needs* — With the establishment of the Division came a major realignment of statistical activities. A committee of experts from throughout the United States reviewed the statistical needs of the Department and the use being made of statistical skills. On the committee's recommendation, some revisions were made in civil service classifications.

*Studies of public health administration* — A five-year research project in public health administration, supported by the Kellogg Foundation, was set up in the Department in 1959 and is being conducted by the Division. Its purpose is to find out what the needs are in California for research in public health administration; to assess their importance and urgency; to investigate resources available for carrying on such research; to stimulate research in public health administration within the Department, in local health departments, and in other suitable agencies or institutions; and to evaluate current research activities in this field. Within the framework of this project, the Division participated in a number of activities, such as preparation for evaluating the regional coordination system of the Division of Community Health Services and for a five-year project in the Bureau of Public Health Social Work examining the consultative process as a tool in public health administration.

*Epidemiology training program* — Too few persons are qualified by training and experience to use the epidemiologic approach to the complex problems of health and disease. The Division's epidemiology training program was developed to coordinate and utilize the many opportunities the Department can provide for practical research experience in public health, and experience in the development of epidemiologic concepts and methods related to new areas of public health interest. The program also provides an avenue for recruitment of persons interested in epidemiology as a career. Under a grant from the National Institutes of Health, the Division now provides advanced traineeships in epidemiologic research for selected graduates in medicine and other scientific disciplines pertinent to public health and has expanded the Department's already established summer training program for medical students.


DIVISION OF RESEARCH SUMMER MEDICAL STUDENT TRAINING PROGRAM 1960–1961

| | |
|---|---|
| APPLICATIONS RECEIVED | 859 |
| STUDENTS PARTICIPATED (35 IN 1960, 37 IN 1961 OF WHOM 8 WERE RETURNED FROM 1960) | 64 |
| MEDICAL SCHOOLS APPLYING | 76 |
| MEDICAL SCHOOLS AMONG PARTICIPANTS | 36 |

# CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

Malcolm H. Merrill, M.D., M.P.H., Director

Harold M. Erickson, M.D., M.P.H., Deputy Director

Hamlet C. Pulley, M.D., M.P.H., Assistant Director

## DIVISION OF ADMINISTRATION

Robert G. Webster, M.P.H., Chief

- Bureau of Business Management
  G. Leonard Johnston, Chief
- Bureau of Personnel and Training
  Jack B. Johnston, Chief
- Bureau of Vital Statistics and Data Processing
  Paul W. Shipley, Chief
- Management Analysis
  Ronald W. Britting
- Public Information
  Norval W. Ayers

## DIVISION OF ALCOHOLIC REHABILITATION

John R. Philp, M.D., M.P.H., Chief

## DIVISION OF COMMUNITY HEALTH SERVICES

John C. Dement, M.D., M.P.H., Chief

William Allen Longshore, M.D., M.P.H., Assistant Chief

Donald G. Davy, M.D., M.P.H., Assistant to the Chief

- Bureau of Health Education
  Ann W. Haynes, M.P.H., Chief
- Bureau of Nursing
  Edna J. Brandt, M.A., Chief
- Bureau of Public Health Contract Services
  George F. O'Brien, M.D., M.S.P.H., Chief
- Bureau of Public Health Social Work
  Esther C. Spencer, M.S.S., Chief
- Regional Coordination
  C. Henry Murphy, M.D., M.P.H., Coordinator, Region I
  James T. Harrison, M.D., M.P.H., Coordinator, Region II
  Byron O. Mork, M.D., M.P.H., Coordinator, Region III

## DIVISION OF DENTAL HEALTH

Lloyd F. Richards, D.D.S., Chief

## DIVISION OF ENVIRONMENTAL SANITATION

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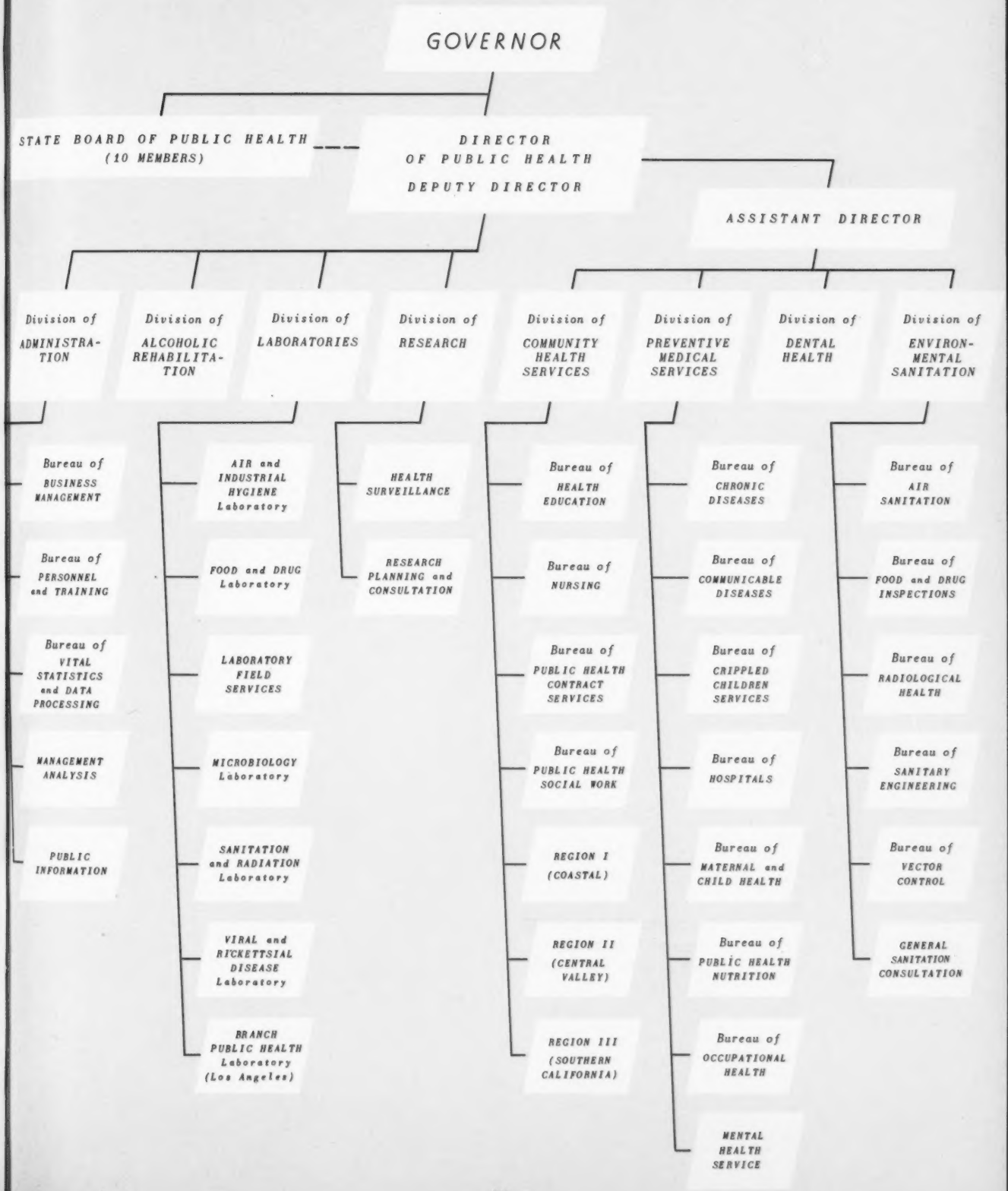

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